MASTER

A STUDY OF THE TREATMENT OF CONSTRUCTION WORK IN PROGRESS AND TAX-TIMING DIFFERENCES FOR RATE-MAKING PURPOSES IN THE ELECTRIC UTILITY INDUSTRY

By: ARTHUR ANDERSEN & CO.
For: FEDERAL ENERGY ADMINISTRATION

MARCH 25, 1977

TABLE OF CONTENTS

ARTHUR ANDERSEN & CO.

1666 K STREET, N.W.
WASHINGTON, D.C. 20006
(202) 785-9510

March 25, 1977

Federal Energy Administration
12th & Pennsylvania Avenue, N.W.
Washington, D. C. 20461

Re: Contract No. CR-05-60877-00

Gentlemen:

In accordance with your authorization, we have prepared a study encompassing a background analysis of the effects of the inclusion of Construction Work in Progress (CWIP) in the rate base and normalization of all income tax costs of the electric utility industry. These effects would be in relation to consumers of electricity, the investor owned electric utilities, bondholders, stockholders and the public as a whole.

This study began with a review of the construction requirements of the industry during recent years and as projected by the industry for the next ten years (Section I) and an analysis of the problems facing the industry in financing these requirements (Section II). We then analyzed and compared each of these two rate-making concepts to other possible rate-making concepts as a means of determining the effect of each on consumers, investors and the public.

Our analysis of the rate-making concept of including CWIP in the rate base (Section III) includes:

- a description of the concept and how it relates to the basic rate-making formula followed by rate regulatory bodies;
- a comparison of the revenue requirements from consumers with CWIP in the rate base and with an Allowance for Funds Used During Construction (AFUDC) as income, for a single property addition and for a continuing construction program using various assumptions as to life, construction period and amount;
- estimated effects of inclusion of CWIP in the rate base on an industry-wide basis exclusive of an evaluation of possible shortages of electric power should this or other rate-making methods of similar impact not be adopted; and
- a discussion of the major arguments advanced in support of and in opposition to this rate-making concept.

Our analysis of the rate-making concept of full normalization of income taxes (Section IV) includes:

- a description of the nature of tax-timing differences;
- identification of the types of tax-timing differences that are involved in a consideration of normalization vs. flow-through;
- the accounting rules and the rate-making concepts which have been applied to tax-timing differences;
- a brief history of the tax legislation and rate-making experience on tax-timing differences;
- the legislative, regulatory and accounting background of the investment tax credit as a form of investment incentive;

- examples of the revenue requirements under the alternatives of normalization and flow-through accounting for rate-making purposes;

- examples of the effects on revenue requirements and internally generated cash for a single property addition and for a continuing construction program on an industry-wide basis; and

- an explanation of the major arguments advanced in support of and in opposition to normalization and flow-through.

Section V of this report presents a bibliography of books, articles, speeches and presentations, regulatory commission orders, public testimony and other sources of information which were reviewed as a part of this study.

Section VI contains the report and independent conclusions of Duff and Phelps, Inc., utility financial analysts, who were retained to review these matters from the viewpoint of investors in electric utility securities. The conclusion of Duff and Phelps is that large construction investments increase the cost of capital but such cost could be avoided to the extent of 30 to 70 basis points (.30 to .70 percentage points) if CWIP were included in rate base in contrast to excluding it from the rate base and capitalizing AFUDC. It was also their opinion that the overall cost of capital to a utility could be reduced by 25 to 50 basis points (.25 to .50 percentage points) if full normalization accounting in contrast to flow-through accounting for income tax costs were utilized for rate-making purposes.

Energy Consumption, Construction Expenditures and Capital Requirements

In 1960, electricity was being consumed in the United States at a rate of approximately 3,800 kilowatt-hours per person per year. Industry sources expect it to rise to over 13,000 kilowatt-hours per person in 1985. This reflects the expected continuing increases in the standard of living, in population growth and more widespread uses of electricity throughout the Nation. Historically there has been a correlation between energy consumption, employment and the gross national product. The increase in per capita consumption of electricity gives rise to an even faster rate of growth in capital requirements. Beyond the regular growth requirements for capital investment, there are substantial new requirements necessitated by:

- Continuing inflation and higher cost of money;
- Environmental and safety requirements;
- Replacement of natural gas and oil as sources of energy;
- Increased capital costs incurred, in part to achieve lower fuel costs, as demonstrated by -
  - An increase in the time period for construction of major production facilities from five years to ten or more years,
  - Capital investment per kilowatt of capacity in coal steam-generating plants rising from $145 per KW in 1960 to approximately $285 per KW in 1975, and

- Nuclear plant capacity costs rising from $241 in 1961 to approximately $460 per KW in 1975.

The rise in consumption together with price inflation has caused utility investment in new operating plants to increase from approximately $3 billion per annum in 1960 to $14 billion in 1973, and industry sources estimate that approximately $26 billion will be invested in the year 1980. The investment in construction, which is now in progress over extended time periods, has increased from approximately 5% of the aggregate capital investment in 1960 to approximately 20% in 1975. Individual companies have, of course, exceeded these rates substantially. Unfortunately, as the capital requirements of the industry have been rising, the cost rate of both debt and equity funds has risen very substantially. These and other factors in the utility industry commitment to provide electricity in accordance with the growth in consumer demand are explained and illustrated further in Section I of this report.

Financing Construction Expenditures

The Edison Electric Institute (EEI) has recently reported that investor owned electric utilities will need to make construction expenditures over the next five years of $122 billion. EEI also reported that 40% of such expenditures are expected to be financed through internal cash generation while outside financing will be required for 60% ($73 billion). In addition, utilities must refinance maturing long-term debt, much of which was issued in a period of low interest rates 25 to 30 years ago. Given the decline in the portion of construction expenditures financed by internal cash generation, which varied from 50% in 1966 to 26% in 1974, a 40% level of internal cash generation will be very difficult to achieve and maintain.

Debt coverage ratios, which investors consider very important in evaluating utility securities, have fallen from 5.4 in 1960 to 2.9 in 1975. Coverage ratios were even lower for flow-through companies.

Investors have become more wary of utility securities. Interest costs have risen more rapidly than on similarly rated industrial bonds, and equity securities of many utility companies are still selling below book value. Without positive steps to increase cash flow, increase coverage ratios and improve the quality of earnings, the ability of utilities to finance the required construction expenditures and fulfill future electricity needs will become a serious national problem.

As a means of achieving increased cash flow, improved coverage ratios and higher quality of reported earnings, two rate-making concepts - inclusion of construction work in progress (CWIP) in the rate base and the increased normalization of income tax-timing differences - have been suggested. The first concept has been utilized to a limited degree in the past as a substitute for AFUDC, which has proven inadequate in recent years. The second concept has been in use to a considerable extent for a number of years.

It is our conclusion that more extensive adoption of these two techniques would produce an overall cost to consumers that would be less than that produced by AFUDC, flow-through accounting for income taxes or an increased rate of return. The basic economic effects that would produce this result are:

- Immediate increase in internal cash flow;
- Immediate increase in coverage ratios;
- Lower capital requirements and lower rate base during the operating lives of the properties;
- Lower revenue requirements in total over the life of individual property additions; revenue requirements for an individual property addition on a present worth basis would be about equivalent, and possibly lower, depending upon the assumptions used;
- Lower annual revenue requirements after a period of years of continuing property additions, the period being dependent on the cost of capital and the rate of growth in consumer demand;
- Faster rate of recovery of invested capital; and
- Less risks and therefore, a lower capital cost.

A comparison of the results from increased utilization of these two rate-making concepts to the results from making no change shows a need for higher revenue requirements to be collected from consumers in the initial years. However, making no change would make it more difficult, more costly and maybe impossible to finance the enormous construction programs which must be completed to meet the demands of consumers and the National goals of reduced unemployment and growth in the GNP. The cost to our country of this condition, were it to come about, would be enormous, indeed. Therefore, continuing to capitalize AFUDC in lieu of including CWIP in rate base and continuing to utilize flow-through rate-making for tax costs are not viable alternatives in many situations because of the adverse impact on internally generated cash for construction, on coverage ratios and on the quality of earnings.

As a rate-making alternative to CWIP in the rate base and normalization, an increase in the allowed rate of return has been suggested to produce equivalent cash flows. While theoretically this would be a means of increasing cash flows and coverage ratios, it would be a much less desirable approach. Rates of return are the composite result of a commission's best judgment of many factors. If rates of return were increased for this purpose, those judgments could become a mixture of economic factors, often undisclosed and imprecise, to reflect earnings necessary to serve capital, to reflect inflation and to provide an unidentifiable sum for financing construction. Normalization and CWIP in rate base would produce future benefits to consumers in the form of a lower rate base and a lower cost of capital. Allowing a higher rate of return would provide no such commensurate future benefits to consumers because there would be no future reduction in the rate base.

The Effects of Capitalization of AFUDC Versus the Inclusion of Construction Work in Progress (CWIP) in Rate Base

At present, the predominant rate-making procedure is to capitalize AFUDC and exclude CWIP from the rate base. However, the capital invested in construction must still be serviced currently with cash payments of interest on debt, dividends on preferred and common stock, plus earnings retention on common equity. Since these capital service costs are necessary for construction of the facilities, they are added to the direct costs of construction and are depreciated over the service lives of the properties.

The amount of such costs capitalized is recorded as income during the construction period; hence, the term Allowance for Funds Used During Construction (AFUDC). This income is intended to offset the higher debt interest charged to expense and to increase net income sufficiently to enable utilities to maintain an adequate return on equity securities.

Although the capitalization of AFUDC is an acceptable accounting procedure for public utilities, this accounting and rate-making process has become a problem for many companies in recent years because it provides "too little too late" in cash. It provides no cash in the year of greatest need, i.e., the year of expenditure. It provides increased cash over the operating life of the property which is usually a 25 to 30 year period following completion of the construction. AFUDC earnings might be considered as a call on future cash flows, although senior securities will have a prior right to future cash flows.

Under many utility indentures, AFUDC earnings may not be fully available for coverage of interest on debt. Because of the non-cash nature of AFUDC earnings, investors usually consider the portion of reported earnings produced by AFUDC to be lower in quality which may limit a company's ability to raise new capital and lead to a higher cost of new capital. This added cost to consumers has been estimated at from three to seven-tenths of one percent by Duff and Phelps, Inc. in their report in Section VI.

With CWIP in rate base, reported earnings are converted from non-cash bookkeeping "earnings" to cash earnings from operations which increase internally generated cash flow, improve coverage ratios under identures, and are considered to be higher in quality. Each of these three results is critical in securities ratings. Adopting the rate-making practice of including CWIP in the rate base would initially require greater revenues. However, those utilities which are most in need of increased cash flow and improved coverage ratios will need to collect higher revenues from consumers, in any case, if they are to finance their construction programs. Increasing cash flow by other means, such as an increased rate of return, will not produce the benefits to future consumers which would be available through the inclusion of CWIP in the rate base.

The principal argument usually advanced in opposition to achieving the needed improvement in cash flow and coverage ratios by including CWIP in the rate base is that current consumers are being asked to pay for the cost of financing construction which will benefit only future consumers. This overlooks the very substantial portion of CWIP needed to fulfill the increased demands for electricity by present consumers, for environmental protection facilities demanded by present consumers, and for the replacement of property serving present consumers.

The benefits available through the inclusion of CWIP in the rate base are:

- An increase in internal generation of cash for construction;

- An increase in the quality of earnings and in earning power, thereby reducing the cost of money and revenue requirements from consumers;
- An increase in the soundness or strength of utility balance sheets, thereby reducing the cost of money and revenue requirements from consumers;
- A reduction in the rate base, thereby reducing revenue requirements from consumers; and
- Assurance to present customers that their future electricity needs will be fulfilled.

These long-run benefits would be realized by the electricity-consuming public, the public investors in electric utility stocks and bonds, and by the electric utility industry itself. The benefits would result directly from the cumulative impact of having electric consumers pay the carrying charges on construction work in progress during the construction period (approximately five to ten years for the construction of generating plants) instead of postponing the payment of those carrying charges to the 25 to 35 year service life of the facilities.

<u>The Effects of Adoption of Full Normalization of Income Taxes for Rate-Making Purposes</u>

Since 1954, a number of provisions have been added to the Federal Internal Revenue Code to stimulate employment by encouraging the expansion and modernization of the nation's productive facilities. As an incentive to investment, taxpayers were offered more rapid write-offs of plant investment through accelerated depreciation methods, shorter tax lives or the immediate deduction of certain costs which are capitalized for rate-making and financial statement purposes. Since the total write-off of plant is still limited to the actual cost of the plant, the effect of an acceleration in the write-off schedule is to reduce taxes otherwise payable in the early years of property life and to increase taxes payable in the later years of property life. The funds provided by the deferral of taxes, if retained by the taxpayer, are interest-free funds which reduce the amount of outside financing required and the overall cost of capital to consumers. The benefit of these tax incentives is the time value of the money made available by the deferrals or postponements of tax payments.

If the tax payments are deferred, an offsetting cost will be incurred. Since total tax deductions are not increased, the acceleration of tax deductions results in an accelerated consumption of the property's capacity to reduce future income taxes. The use of greater tax deductions in the earlier years of the property's service life results in the accelerated consumption of one element of the property's usefulness - its ability to reduce income taxes. The cost occurs as the value is "given up" -- namely the capacity of the property to produce a future value in the form of reduced consider itself to be bound by the approval of flow-through by the prior commission, and the recovery of the tax costs deferred in prior years may be jeopardized.

The rules of the accounting profession require that the cost involved in achieving the deferral of tax payments be recorded as either a provision for deferred taxes or as additional depreciation. This applies to utilities as well as to other businesses. However, in deference to the legal power of commissions, when a commission postpones recognizing such a cost (flow-through), the cost may also be postponed for general financial statement purposes if the cost is clearly recoverable from future revenues.

Summary of the Effects of a Full Application of the Two Rate-Making Concepts

A summary of the estimated incremental effects of including all CWIP in the rate base and full normalization of tax costs on an industry basis, using the assumptions described in the appendix, is shown on page 17. We have not shown the cost of failing to provide adequate electric power - an alternative that is likely in some regions if these rate-making methods are not adopted. The computation of these estimates is shown in the appendix to this letter.

The rates of return reflected in these estimates are illustrative and are not intended to be those which necessarily would be appropriate under the conditions prevailing at any given time. The additional cost rates for capital under conditions of excluding CWIP from rate base and flow-through accounting are the upper levels set forth in the report by Duff and Phelps, Inc. in Section VI. The following tables refer to a lower cost of capital with CWIP in rate base and normalization in effect. These cost savings would logically be realized through the avoidance of higher costs of capital which would be incurred without CWIP in the rate base and without normalization accounting for taxes.

The overall summary of the effects of a full application of the two rate-making concepts is on the succeeding page.

	Estimated Effect for the Year 1975	Estimated Effect for the Year 1985
	(In Millions)	
CWIP in Rate Base		
Net increase (decrease) in revenue requirements -		
Return on CWIP in rate base (8.9%)	$ 1,952	$ 3,496
Income taxes payable	739	385
Lower capital cost by .7%	(853)	(1,528)
AFUDC excluded from plant -		
Lower depreciation	-	(716)
Lower return	-	(1,640)
Revenue requirements effect	$ 1,838	$ (3)
Effect on cash flow -		
Customers (increased rates)	$ 1,838	$ (3)
Government (increased taxes)	(739)	(385)
Investors (reduced return)	853	3,168
Increase in industry cash flow	$ 1,952	$ 2,780
Normalization		
Net increase (decrease) in revenue requirements -		
Deferred tax provision	$ 949	$ 1,700
Income taxes payable	750	706
Lower capital cost by .5%	(284)	(509)
Return on reduced rate base	-	(1,113)
Revenue requirements effect	$ 1,415	$ 784
Effect on cash flow -		
Customers (increase rates)	$ 1,415	$ 784
Government (increased taxes)	(750)	(706)
Investors (reduced return)	284	1,622
Increase in industry cash flow	$ 949	$ 1,700

The revenue requirement for normalization of $1,415 million in 1975 and $784 million in 1985, shown in the preceding table, is exclusive of the effect on consumers whose rates are now set on a normalization basis. The revenue requirement for these consumers, were they on a flow-through basis (all costs not currently recognized), is estimated to be $618 million lower in 1975 and $1,134 million higher in 1985. The basis of these estimates is explained in the appendix.

The combined incremental effect on cash flow of including all CWIP in rate base and full normalization of tax costs on an industry basis is estimated as follows:

	1975	1985
	(In Millions)	
Effect on cash flow -		
Consumers (increased rates)	$ 3,253	$ 781
Government (increased taxes)	(1,489)	(1,091)
Investors (reduced return)	1,137	4,790
Increase in cash flow to utilities	$ 2,901	$ 4,480
Increased rates as percent of 1975 electric revenues ($44,598 million)	7%	
Increase in cash flow as percent of 1975 construction expenditures ($16,806 million)	17%	

If the rate of return were increased to produce revenue from consumers and cash flow equal to that shown above, the estimated rate of return would change from 8.9% to 13.0%.

These estimates are based on the inclusion of all CWIP in the rate base and on full tax normalization. Whether, as a practical matter, such rate-making is adopted at one time or over a short period of time is a policy matter to be faced by each rate-making regulatory body. The earlier and greater the degree of adoption, the greater the impact on cash flow and coverage ratios, and the more effective they will be as a step toward assisting utilities in meeting consumers' demands at the least long-run cost.

The results summarized above would be smaller if only part of CWIP were included in rate base or if less than full normalization were adopted, and would vary if different cost of capital or growth rates were assumed.

The 6% growth rate in construction expenditures used in this example for illustration purposes is consistent with industry projections of the growth rate in KWH production. Depending upon the rate of inflation, the availability of reserve capacity, the requirements for pollution control equipment, conservation and other consumer influences, the actual growth rate of a given utility, in a given year and for the industry as a whole may vary.

The following table summarizes the net revenue requirements under certain assumptions as to cost of capital and expected growth patterns. This table supplements the detail calculations herein and provides a frame of reference as to what may happen under varying assumptions.

	Revenue Requirements (In Millions)			
	Construction Work In Progress		Normalization	
	.7%	.3%	.5%	.25%
1975	$1,838	$2,541	$1,415	$1,620
1985 - 3% Growth	(395)	550	379	654
1985 - 6% Growth	(3)	1,257	784	1,151

The purpose of these estimates is to compare the effect on the ratepayers receiving service in 1975 and 1985; hence, a present worth computation for the estimated revenue requirements would be inappropriate. Although present worth computations are useful in evaluating alternative investment decisions, it is our experience that they are seldom useful for evaluating the appropriateness of two rate-making procedures. The reasons are:

- Rates charged to consumers are established for the near-term future. Costs should be recognized for the same near-term future period. Reaching out into the long-term future, such as the period of service-life of utility properties, and bringing events or costs back to the present or near-term future is to introduce rate factors not related to the effective period of the rates.

- If cost recognition or capital recovery is postponed and added to rate base and if the same cost of capital and discount rate is used in comparing the two alternatives, the revenue requirements would usually be approximately equivalent. Computing the present worth obscures the effects of the postponements, and does not address the question of whether the cost has been recognized in the proper period.

- The cost of capital rate used should consider the probable higher cost of the additional capital (if available at any cost) required to finance the postponements of costs or of capital recovery.

- There are differing viewpoints on the appropriate discount rate to be used. If it is the cost of money to the utility, is it net or gross of tax; is it the allowed return; is it the earned return; is it the incremental cost of new money; or is it some other rate? If it is the cost of money to the consumer, how does one consider that some consumers may save at 5% while others may borrow at 18%, that the consumers' effective income tax rates vary from 0% to 50% or above, or that the mix and circumstances of consumers changes from year to year?

- A rate-making alternative designed to increase cash flows and coverage ratios might, by its very nature, produce a higher present worth of future revenue requirements, thus obscuring the benefits of those rate-making alternatives.

- A present worth computation cannot consider the effects of not meeting energy needs or of unemployment if a construction program is curtailed.

In spite of these limitations, we have recognized this as an occasional practice and included on Exhibits III-5, III-12 and IV-1, computations of the present worth of future revenue requirements when alternative rate-making procedures are applied to single property additions. If different assumptions had been used, substantially differing results would have been produced.

Normalization is simply a matter of proper cost determination and allocation between time periods. After many years of trial and study by individual companies, no sustainable conceptual support has been developed for flow-through, since it fails to recognize the current cost incurred in the consumption of capital that is serving consumers. Rate-making that would recognize this cost currently would be proper whether or not the additional benefit of increased cash flow and lower future rates would result.

The inclusion of CWIP in rate base is not a matter of determining whether financing construction is a current or future cost, since CWIP provides benefits to both present and future consumers. The extent to which it is adopted should consider such factors as:

- increasing the percentage of internally generated cash available for construction expenditures to a more acceptable level;
- increasing coverage ratios to a level acceptable to investors; and
- replacing AFUDC with cash earnings sufficient to ensure that dividends are adequately covered by earnings from operations, which have been realized in cash.

The greatest need for this rate-making will be experienced by those utilities with large construction programs. It should not be considered, however, a substitute for adequate earnings, full normalization or adequate depreciation rates.

We appreciate the opportunity to prepare this study and would be pleased to discuss it further with you or explain it to others who might be concerned with these matters.

Arthur Andersen & Co.

Washington, D. C.,
March 25, 1977.

APPENDIX ON ESTIMATED EFFECTS OF INCLUSION OF CONSTRUCTION WORK IN PROGRESS IN THE RATE BASE

The accompanying series of computations are estimates of the effect of inclusion of CWIP in the rate base of the electric industry for the years 1975 and 1985. The revenue requirement necessary to reflect inclusion of CWIP in the rate base in 1975 is calculated as follows:

		(In Millions)
1.	AFUDC reported in 1975 (FPC Statistics)	$ 1,645
2.	CWIP represented by this AFUDC, assuming a 7.5% AFUDC rate (the average of prior and current year ending CWIP balances as reported by the FPC was $24,583 million)	$21,933
3.	Revenue required to produce an 8.9% return on $21,933 million, plus the income taxes on the additional revenue (a)	$ 3,069

Offsetting this revenue requirement would be a reduction in the cost of capital estimated to be $1,231 million. Assuming that the percentage of the CWIP subject to AFUDC ($21,933 on line 2 above) is 90% of the average total industry CWIP for 1975 of $24,583 million, 90%

(a) Additional taxes related to additional return on equity have been computed assuming that the common and preferred equity ratio is 48%, that it has a cost of 11.5% and the income tax rate is 48%.

of total utility capitalization would benefit by a difference in cost of capital (assumed to be .7%, Duff and Phelps, Inc. upper estimate of the effect of including CWIP in the rate base). The consumer benefit from the lower capital cost is estimated as follows:

		(In Millions)
4.	90% of total capitalization of $135,393 million	$121,854
5.	Reduction in revenue requirement from the cost of capital reduction of .7% plus the $378 million reduction in income taxes on the revenue requirement (a)	$ 1,231
6.	Estimated net revenue requirement, if cost of capital benefits were reflected in 1975, line 3 less line 5 above	$ 1,838

For illustrative purposes, the entire cost of capital differential between the two rate-making concepts is shown as immediately effective. In practice, the differential should become effective as investors realize that a utility had moved toward changed rate-making concepts and as the effect of the embedded cost of debt sold under the former rate-making method became less significant in total.

(a) Reduced taxes related to reduced return on equity computed assuming that the common and preferred equity ratio is 48%, the cost rate differential is .7% and the income tax rate is 48%.

Assuming construction expenditures and AFUDC were to rise at the annual rate of 6% through 1985, the estimated benefits gained by including CWIP in the rate base in the year 1985 would be as follows:

		(In Millions)
7.	Amount of CWIP which would be subject to AFUDC if it were not in rate base	$ 39,279
8.	Revenue required to produce an 8.9% return on $39,279 million plus the income taxes on the additional revenue (b)	$ 5,497
9.	90% of estimated capitalization of $242,468 million, in 1985	$218,221
10.	Reduction in revenue requirement from the cost of capital reduction of .7% plus the $677 million reduction in income taxes on the revenue requirement (a)	$ 2,205
11.	AFUDC which would have been capitalized and depreciated if CWIP were not in rate base	$ 21,682
12.	Less 15% for estimated depreciation	3,252
13.	Additional capitalization required if AFUDC was capitalized	$ 18,430
14.	Reduction in revenue requirement, 8.9% return on $18,430 million plus the $939 million reduction in income taxes on the reduced revenue (b)	$ 2,579

(a) Reduced taxes related to reduced return on equity computed assuming that the common and preferred equity ratio is 48%, the cost rate differential is .7% and the income tax rate is 48%.

(b) As to line 8 above, the additional taxes, and as to line 14 above, the reduced taxes related to the change in the return on equity were computed assuming that the common and preferred equity ratio is 48%, that it has a cost of 11.5% and the income tax rate is 48%.

		(In Millions)
15.	Reduction in depreciation assuming a 30-year life, 3.3% times line 11	$ 716
16.	Total reductions in revenue requirement in 1985, from inclusion of CWIP in the rate base, line 10 plus line 14 plus line 15	$ 5,500
17.	Estimated reduction in revenue requirement in 1985, line 16 less line 8	$ 3

Thus, within ten years, the annual revenue requirements of $5,497 million (line 8) as a result of CWIP in rate base would be offset by reduced capital and depreciation costs of $5,500 million (line 16). From 1985 forward the inclusion of CWIP in the rate base would require less revenue from consumers than would be necessary if the AFUDC method were to be continued.

APPENDIX ON ESTIMATED EFFECTS OF FULL NORMALIZATION OF THE COST OF INCOME TAXES

A precise estimate of the effect of adopting full normalization is not possible. Based on the FPC statistics for 1975 and the corporate tax rate of 48%, the approximate effects are as follows:

		(In Millions)
1.	Estimated total income taxes at the Federal statutory rate of 48%	$3,532
	Less income taxes provided-	
2.	- Income taxes payable currently	975
3.	- Deferred income taxes provided	1,300
4.	- Portion of income taxes deferred in prior years which was payable in 1975	(293)
5.	- Investment tax credit	601
6.	Income tax expense recognized in 1975	$2,583
7.	Additional income taxes on a fully normalized basis, line 1 less line 6	$ 949
8.	Revenue required to provide the additional taxes of $949 million plus the income taxes on the additional revenue (c)	$1,825

(c) Additional taxes on the $949 million related to additional taxable income because of the allowance of the deferred tax provision is computed at the 48% tax rate (92.3% of deferred tax provision).

Offsetting this revenue requirement would be a steady reduction in revenue requirements because of the reduction in cost of capital resulting from normalization rate-making. Assuming that 42 percent (line 7 ÷ lines 3 + 7) of the electric industry capital reflects flow-through accounting, if such capital were based on normalization accounting, the benefit from a lower capital cost of .5% (the upper estimate of Duff and Phelps, Inc.) would be as follows:

		(In Millions)
9.	42% of total capitalization of $135,393 million	$56,865
10.	Cost of capital reduction of .5% plus the income tax reduction of $126 million on the reduced revenue requirement (d)	$ 410
11.	Estimated net revenue requirement in 1975, line 8 less line 10	$ 1,415

Assuming construction expenditures, capitalization and the additional taxes on a fully normalized basis were to rise at an annual rate of 6%, the effect of adopting full normalization on revenue requirements in 1985 would be as follows:

(d) Reduced taxes related to reduced return on equity computed assuming that the common and preferred equity ratio is 48%, the cost rate differential is .5%, and the income tax rate is 48%.

		(In Millions)
12.	Additional income taxes on a fully normalized basis	$ 1,700
13.	Revenue required to provide the additional taxes of $1,700 million plus the income taxes on the additional revenue (c)	$ 3,269

The above increase in revenue requirement in 1985 would be reduced by:

14.	Estimated invested capital reflecting flow-through accounting in 1985, 42% of $242,468 million	$101,837
15.	Cost of capital reduction of .5% plus the tax reduction of $226 million on the reduced revenue requirement (d)	$ 735
16.	Reduction in rate base which would result from the use of normalization accounting for the ten-year period ending in 1985	$ 12,508
17.	Reduction in revenue required to produce 8.9% return on $12,508 million plus the $637 million reduction in income taxes on the reduced revenue (e)	$ 1,750

(c) Additional taxes related to additional taxable income because of the allowance of the deferred tax provision is computed at the 48% tax rate (92.3% of deferred tax provision).

(d) Reduced taxes related to reduced return on equity computed assuming that the common and preferred equity ratio is 48%, the cost rate differential is .5%, and the income tax rate is 48%.

(e) Reduced taxes related to reduced return on equity computed assuming that the common and preferred equity ratio is 48%, that it has a cost of 11.5%, and the income tax rate is 48%.

		(In Millions)
18.	Total reductions in revenue requirement in 1985, line 15 plus line 17	$ 2,485
19.	Net revenue requirement in 1985, line 13 less line 18	$ 784

Because of full normalization, within ten years over 70% of the increase in annual revenue requirements of $3,269 million would be offset by reduced capital costs of $2,485 million. The net revenue requirement in 1985 of $784 million is considerably below the 1975 net revenue requirement of $1,415 million in spite of an assumed 6% annual growth rate during this ten-year period. Our studies show that with a 6% annual growth rate and a .5% reduction in cost of capital, the full normalization of taxes would produce a net reduction in annual revenue requirements after the 18th year, the year of "cross-over" to continuing savings.

The above estimates do not consider the effect of the prior use of flow-through rate-making in the industry. The additional revenue requirements that would be required in future years, because of the prior use of flow-through rate-making, would give rise to an additional revenue requirement in future years whether or not normalization is adopted from here forward. If normalization is adopted, however, the real economic costs would be known and the higher revenue requirements from flow-through rate-making in prior years should be generally understood. These additional revenue requirements would not represent a double charge to consumers, as consumers were not charged for those tax costs when they were accounted for on a flow-through basis.

Because normalization accounting has become the predominant rate-making practice for the effects of using accelerated tax depreciation and because it is becoming more common to normalize other timing differences between the income tax return and general financial reporting, such as differences in property lives and the treatment of overhead costs, present consumers are already receiving substantial benefits from normalization.

The table on the following page summarizes the estimated annual effect on consumer rates as of the end of 1975 and 1985 for that portion of the industry which is presently on normalization accounting for rate-making purposes. The table is based on the following: (1) an 8.9% rate of return; (2) that without normalization in prior years, 48% of this interest-free capital would have been financed with equity; (3) 58% of the total capitalization of utilities is now benefiting from a .5% reduction in capital costs because of normalization; (4) a 6% rate of growth in constructed additions to property; and (5) an estimated 15% rate of growth in the annual credit to deferred taxes for the effect of normalization in prior years.

	1975	1985
	(In Millions)	
Savings in capital costs -		
Accumulated deferred income taxes -		
1975 - $5,368 million		
1985 - $16,554 million		
8.9% rate of return	$ 478	$ 1,473
Savings in income taxes because of reduction in the amount of equity capital	273	844
58% of total capitalization		
1975 - $78,528		
1985 - $140,631 million		
Cost of capital reduction at .5%	393	703
Savings in income taxes because of reduction in cost of equity capital	174	312
Total savings in capital costs	$1,318	$ 3,332
Revenue requirements related to deferred tax provision -		
Net provision for deferred taxes	$1,007	$ 1,143
Additional income taxes because of increased taxable income	929	1,055
	$1,936	$ 2,198
Net revenue requirement in 1975 and (reduction) in 1985 which will result from present normalization accounting for consumer rate-making purposes	$ 618	$(1,134)

On the basis of the above assumptions, the growth in the accumulated deferred tax reserve would produce a reduction in the net revenue requirements to consumers now on normalization of approximately $1,134 million in 1985.

Normalization would produce a growing benefit in succeeding years. By 1985, the $1,134 million estimated reduction in revenue requirement from consumers now on normalization would exceed the additional revenue requirement of $784 million (line 19) which would result from the normalization of tax-timing differences which are now accounted for under flow-through instead of normalization accounting for rate-making purposes.

Section I

CONSTRUCTION REQUIREMENTS FOR THE ELECTRIC UTILITY INDUSTRY

The construction budget of the electric industry during the next ten years, and probably during the remainder of the century, is massive. Projections by most knowledgeable sources, both governmental and private, indicate that the industry will need continuing infusions of outside capital at an increasing rate. While one can speculate as to the rate of growth in expenditures, the annual pattern that it will follow, or the extent to which conservation measures will be successful in restraining the need for capital additions, there can be little doubt that significant growth in electric generating capacity will be needed. There can also be little doubt that the growth rate in dollars of construction expenditures will probably exceed the growth rate in capacity additions. As domestic supplies of natural gas and oil become more scarce and dependence on foreign supply increases, the nation will have to increasingly rely on electricity and, for the foreseeable future, on electricity generated by coal or nuclear fuel.

Even though the annual rate of growth in per capita consumption of electricity has declined recently because of economic recession as shown in Illustration 1, the rate of growth is expected to increase although it may not increase at the historical rate of growth. Studies show a close correlation between gross national product and energy consumption. In view of the shortages of natural gas and petroleum energy resources, future increases in our National GNP will require increasing supplies of electric power.

The reasons for expecting electric construction and capital requirements to increase substantially include the following:

1. Increasing per capita consumption of electricity;
2. Requirements for additional capacity to supply the energy needs now supplied by natural gas and oil;
3. Achieving savings through the efficient utilization of fuel requires installing capacity with a higher capital cost;
4. Sizeable requirements for equipment to meet the environmental protection and safety standards demanded by the public;
5. Longer construction periods;
6. Growth in the dollar level of electric construction required to keep up with continuing inflation;
7. Interest costs in excess of the embedded cost of debt; and
8. Higher equity costs than historically experienced because of investors concern over the industry's financial problems and because of the need for greater inflation protection than historically required.

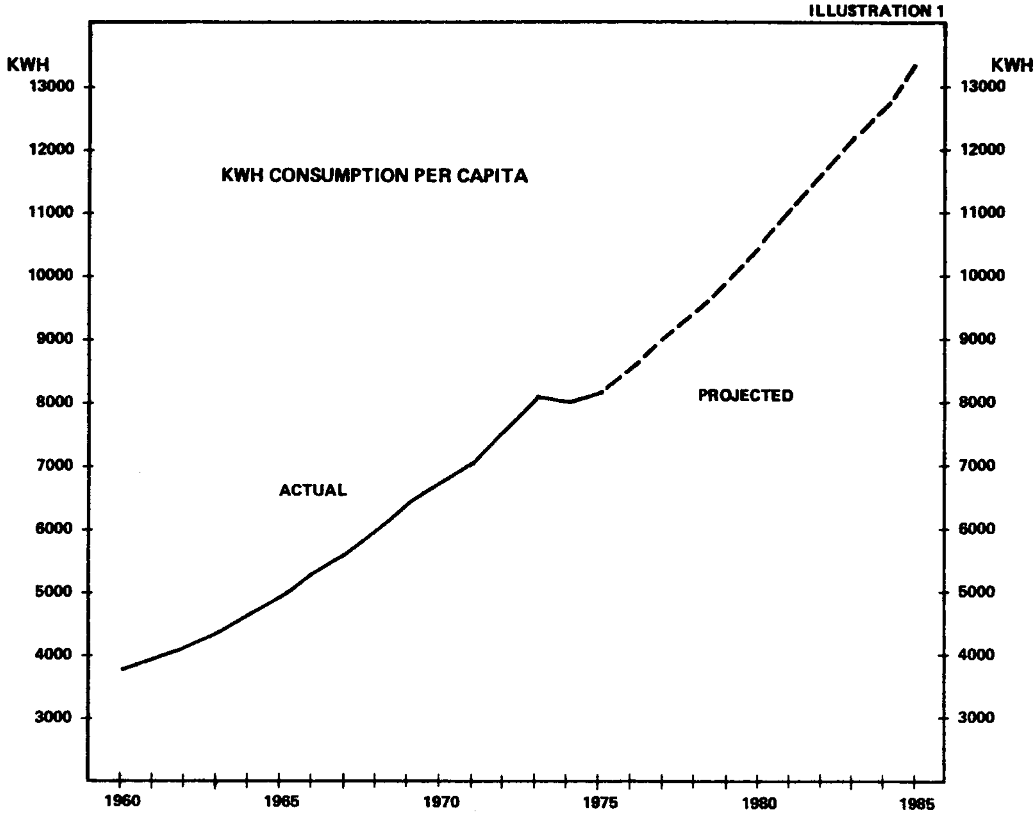
The reasons for these greater construction expenditures, considering both the experience of the past few years and authoritative projections for the future, are discussed in more detail in subsequent portions of this section.

The degree to which continuing and more extensive conservation measures as a means of reducing electric power consumption and capital requirements are reflected in the estimates in this section are not known. The effect of such measures are difficult, if not impossible to estimate at present. It does seem likely that the principal efforts will be directed at reduction in the use of natural gas and oil, which at least in part, are expected to be replaced by more extensive use of coal and nuclear power as energy sources.

Increasing Capital Requirements to Meet Electric Demand

The overall consumption of electricity in the United States by the public as a whole increased significantly from 1960 to 1973, and is expected to continue to increase during the next ten years. The chart below depicts the actual rate of growth in consumption per capita through 1975 and an estimated rate of growth through 1985.

ILLUSTRATION 1



Source: Historical: Federal Power Commission, "Statistics of Privately Owned Electric Utilities in the United States." Projections: Electrical World "27th Annual Forecast", September 1976, p. 52, and United States Bureau of Census Projections

Increasing Capital Requirements
to Meet Electric Demand (Cont'd)

As shown in the preceding chart, the average kilowatt-hours of electricity consumed by each member of the population in the U. S. has increased from approximately 3,800 in 1960 to 8,100 in 1975, and is expected to rise to over 13,000 in 1985. This is a consumption increase of 114% in the 15 years to 1975 and 242% in the 25 years to 1985. This increase in the public's demand for additional electricity has led to an even greater rise in the amount of capital needed to finance the facilities to meet this demand.

The capital requirements in the foreseeable future are projected to increase at a rate faster than the increase in the rate of consumption because a greater portion of electricity will be generated by more advanced nuclear and coal-fired power plants. On the other hand, experience indicates that the operating costs of these plants are less than the operating costs of the existing oil- and coal-fired plants, which have historically provided most of the electricity. The construction costs of future plants are expected to be higher because of:

1. Greater capital investment per unit of capacity to generate power, and
2. Longer periods of time required to construct the plants.

Increasing Capital Requirements
to Meet Electric Demand (Cont'd)

As a result, future capital requirements are expected to rise faster than the KWH consumption of electricity. Hence, the need for increased cash (whether from outside capital markets or from earnings) to finance construction results directly from the obligation to supply increasing amounts of power at the lowest possible cost.

The industry's actual capital and operating costs during the past fifteen years are summarized as follows:

	Type of Steam Generating Plant	
	Fossil	Nuclear
Construction Time Span (1)		
1965	2-3 yrs.	
1969		6 yrs.
1975	3-8 yrs.	9-10 yrs.
Capital Investment Per Kilowatt of Capacity (2)		
1960-1961	$ 145	$ 241
1975	286	462
Cost of Production of Electricity per KWH (2) (Including Estimated Depreciation)		
1960-1961	$.0046	$.0049
1975	.0137	.0062

Sources:

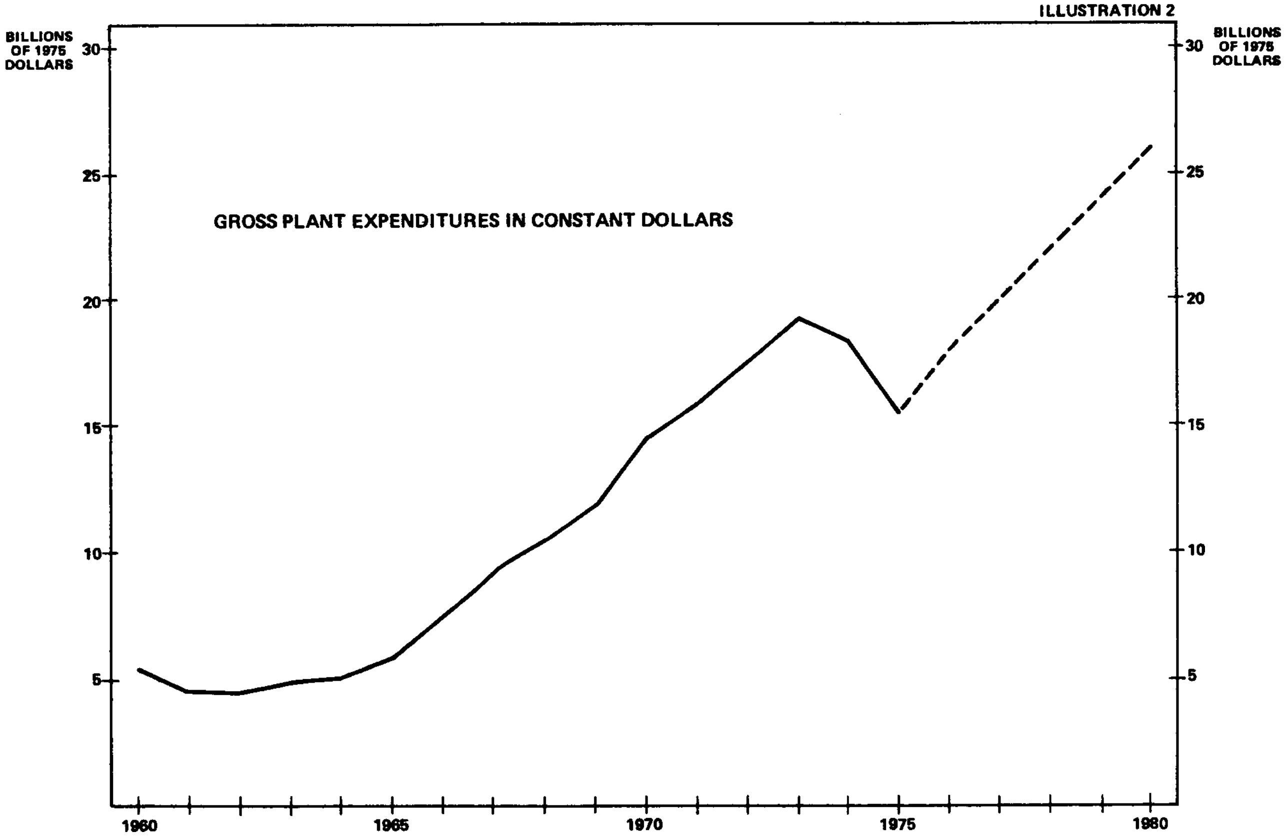
(1) "The Economics of Nuclear Power" by W. W. Brandforr, Atomic Industrial Forum; and Larry Frick, Edison Electric Institute, New York.

(2) Federal Power Commission, "Statistics of Privately Owned Electric Utilities in the U. S."

Increasing Magnitude of Construction Expenditures

Until recent years, the investment in construction work in progress (CWIP) represented a relatively small portion of the total capital investment in fixed assets. Hence, servicing this capital presented no significant cash strain on the electric industry under the predominant practice of excluding CWIP from the rate base and capitalizing an allowance for funds used during construction. However, electric utility construction additions have increased enormously in recent years. This is shown in Illustration 2 where annual plant additions for the period 1960 through 1975 and projected gross capital expenditures for 1976 through 1980 are plotted.

ILLUSTRATION 2



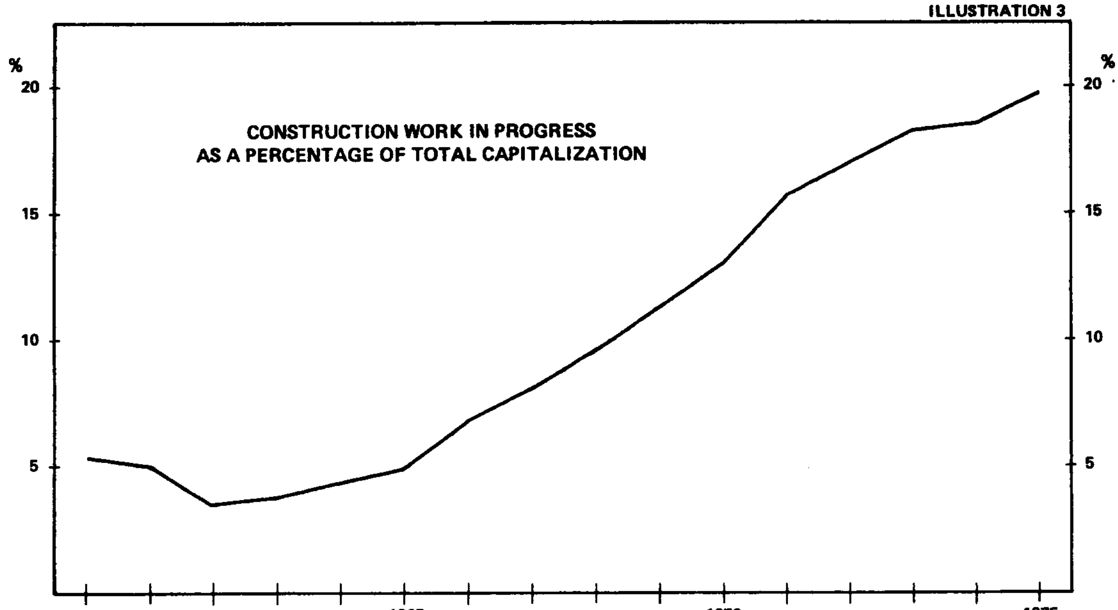
Source: Historical: Federal Power Commission, "Statistics of privately Owned Electric Utilities in the United States."
Projections: Edison Electrical Institute, "Financing the Electric Utility Industry," April 1976, p. 10

Increasing Magnitude of
Construction Expenditures (Cont'd)

Over $115 billion was expended during the past fifteen years and well over $67 billion was expended in the last five years alone--a compounded annual growth rate of over 19% during the last five years. In addition, as indicated by Illustration 2, capital expenditures in excess of $110 billion are projected over the next five years, or almost twice the amount of such additions in the last five years.

The relationship of CWIP to total capital investment for the years 1960 through 1975 is reflected in Illustration 3 below.

ILLUSTRATION 3



Source: Federal Power Commission, "Statistics of Privately Owned Electric Utilities in the United States."

Increasing Magnitude of
Construction Expenditures (Cont'd)

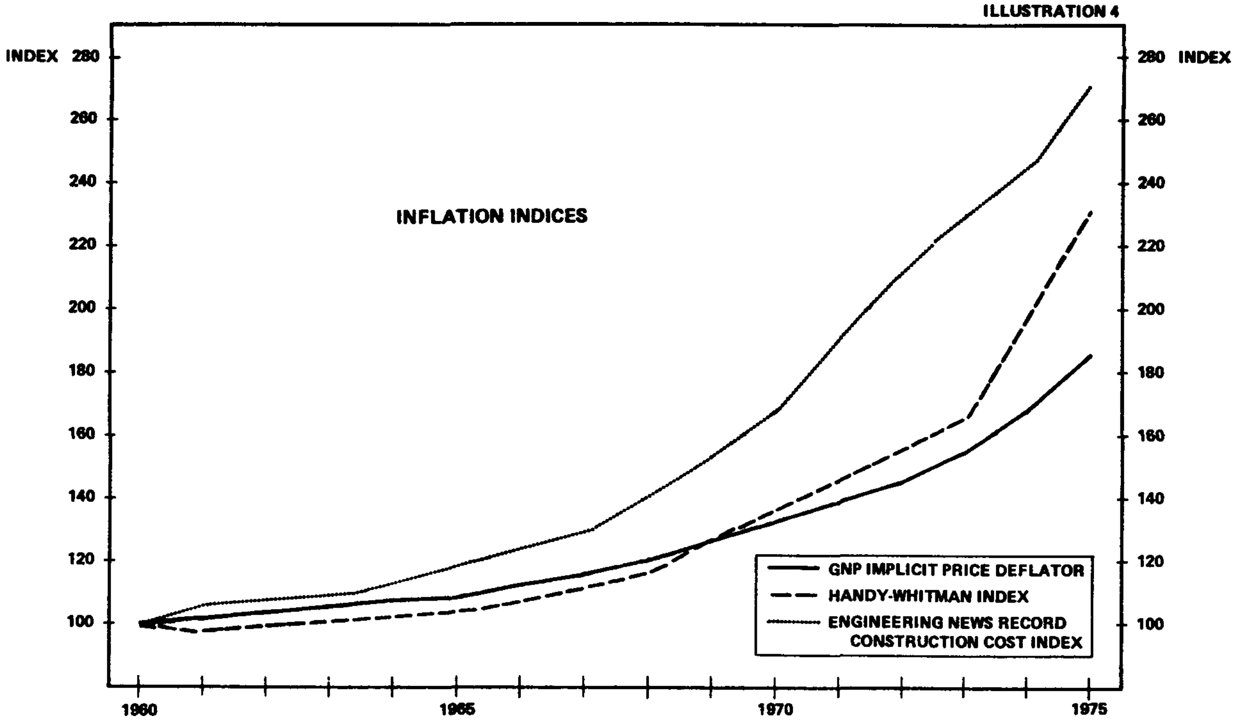
As shown in Illustration 3, the year-end investment in CWIP during this period grew to over 19% of the industry's total capitalization at the end of 1975, as compared with slightly over 5% in 1960.

A number of factors which caused an increase in the level of construction expenditures in recent years are expected to continue to affect construction costs in the foreseeable future. These matters are explained on the succeeding pages.

The Effects of Inflation on Construction Costs

Recent increases in the CWIP investment are partly a consequence of the inflation which is depicted in Illustration 4.

ILLUSTRATION 4



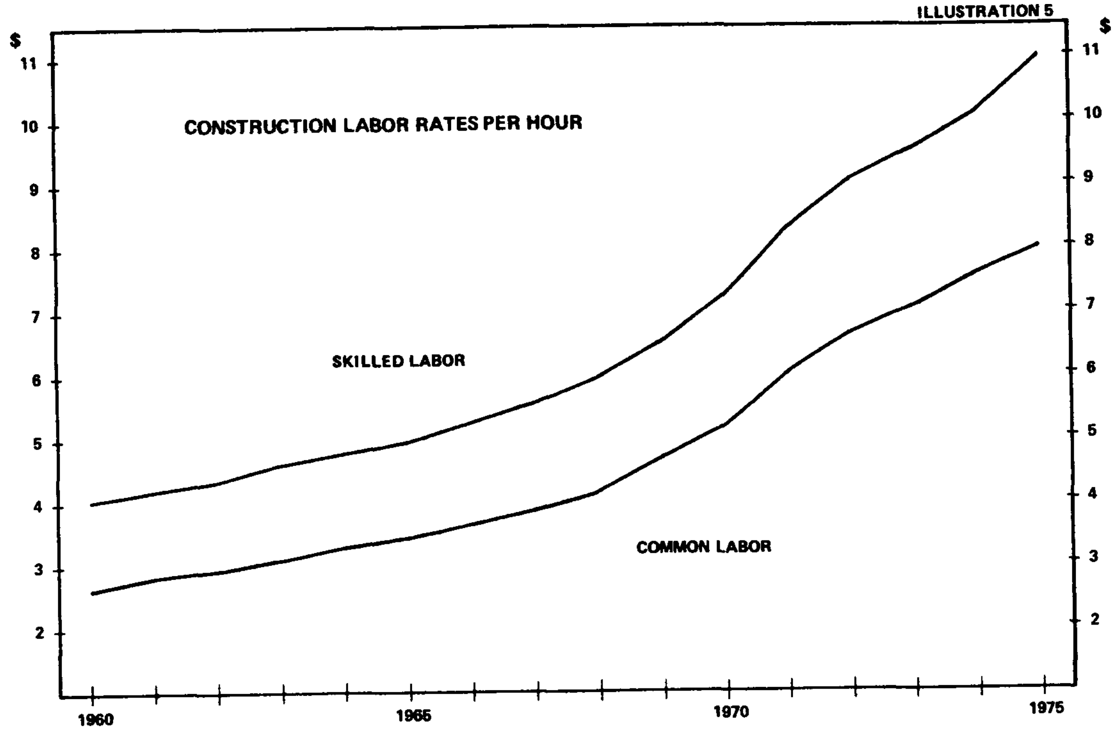
Source: Handy-Whitman Index of Public Utility Construction Costs, 1976, p. 18-20
Business Statistics, 1975, U.S. Department of Commerce, p. 5, p. 55.

As measured by the Handy-Whitman index of electric construction, utility construction costs have taken a sharp upturn in the last few years. The annual compound rate of increase in construction costs during the past 15 years was nearly 6%, whereas during the last five years the increase was over 11%. This increase in the rate of inflation is

The Effects of Inflation
on Construction Costs (Cont'd)

reflected in the Engineering News Record Indices on construction labor which, as shown in Illustration 5, also show sharp increases.

ILLUSTRATION 5



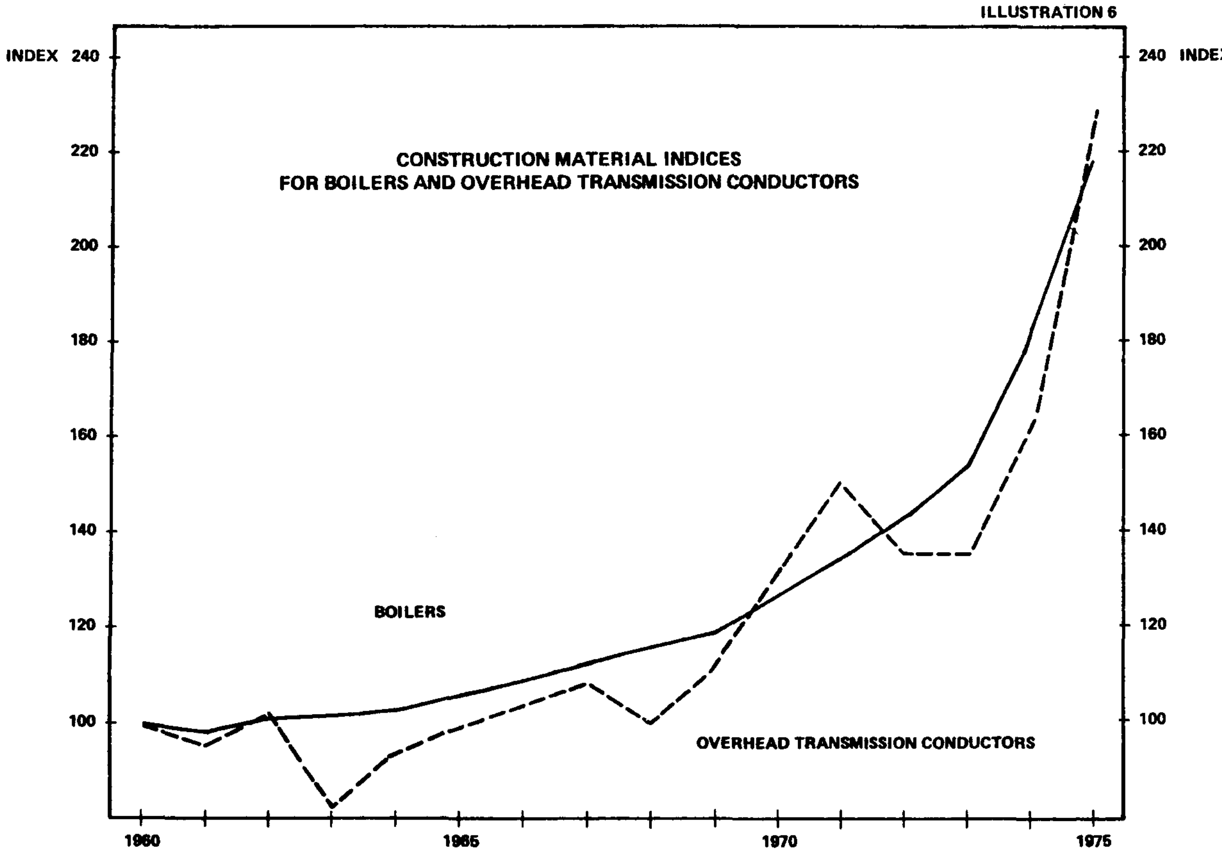
Source: 1975 Statistical Supplement to the Survey of Current Business, p. 84 and
Survey of Current Business, September 15, 1976 p. 5-16.

A comparison of the rate of increase in the above labor rates with the rise in the GNP implicit price deflator shown on Illustration 4 discloses the marked degree to which inflation in utility construction costs has exceeded the inflation experienced by the U.S. economy as a whole.

The Effects of Inflation
on Construction Costs (Cont'd)

The cost of materials used in construction has, likewise increased rapidly, as measured by the two representative Handy-Whitman construction materials indices shown in Illustration 6.

ILLUSTRATION 6



Source: Handy-Whitman Index of Public Utility Construction Costs, 1976, p. 88-90

Although substantial efficiencies in construction methods, equipment and construction cost control procedures have been instituted, such improvements have not completely offset increases in construction costs related to inflation.

Increases in Capital Costs

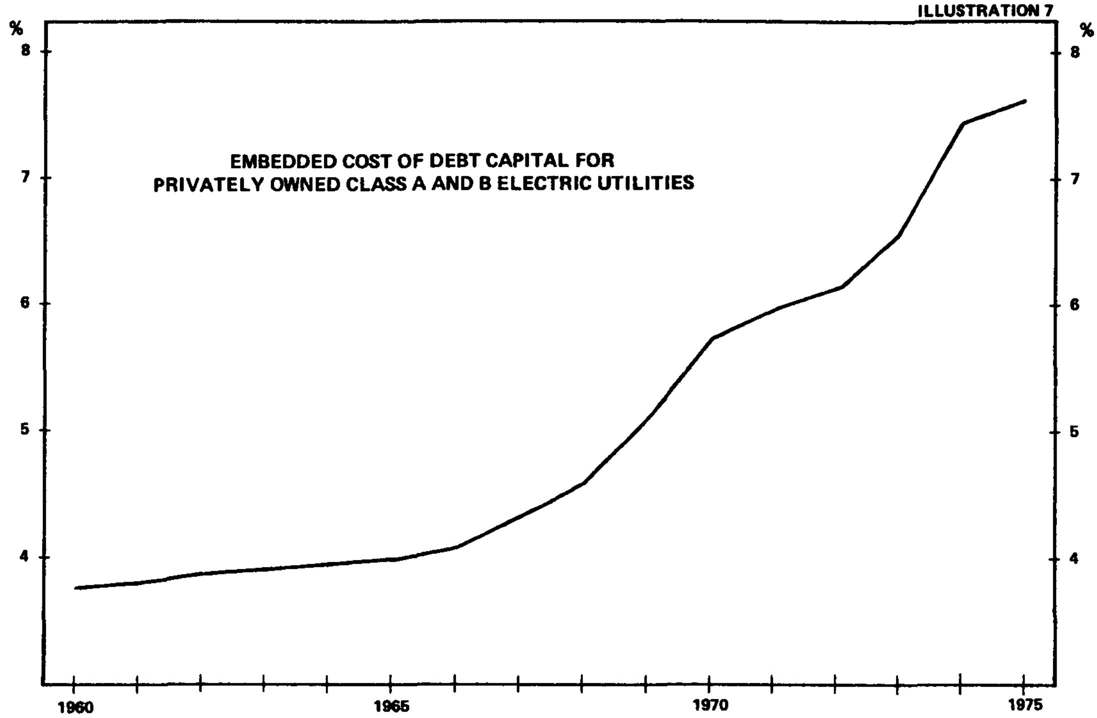
Increases in capital costs have had a significant impact on construction costs. These increases are influenced by two factors--an increase in the length of the construction period and an increase in the cost of capital itself.

Present-day construction requirements and standards have extended the construction periods by several years for major generating plants. Further, increased lags have occurred as a result of siting, licensing and other similar regulatory proceedings. These extensions of construction periods mean that the capital is invested for longer periods of time and that the carrying costs during the construction period are increased.

Increases In
Capital Costs (Cont'd)

In addition to extended construction periods, the level of cost of the capital itself has increased substantially in recent years. Illustration 7 depicts the historical embedded cost of outstanding debt capital of the electric utility industry from 1960 to 1975.

ILLUSTRATION 7

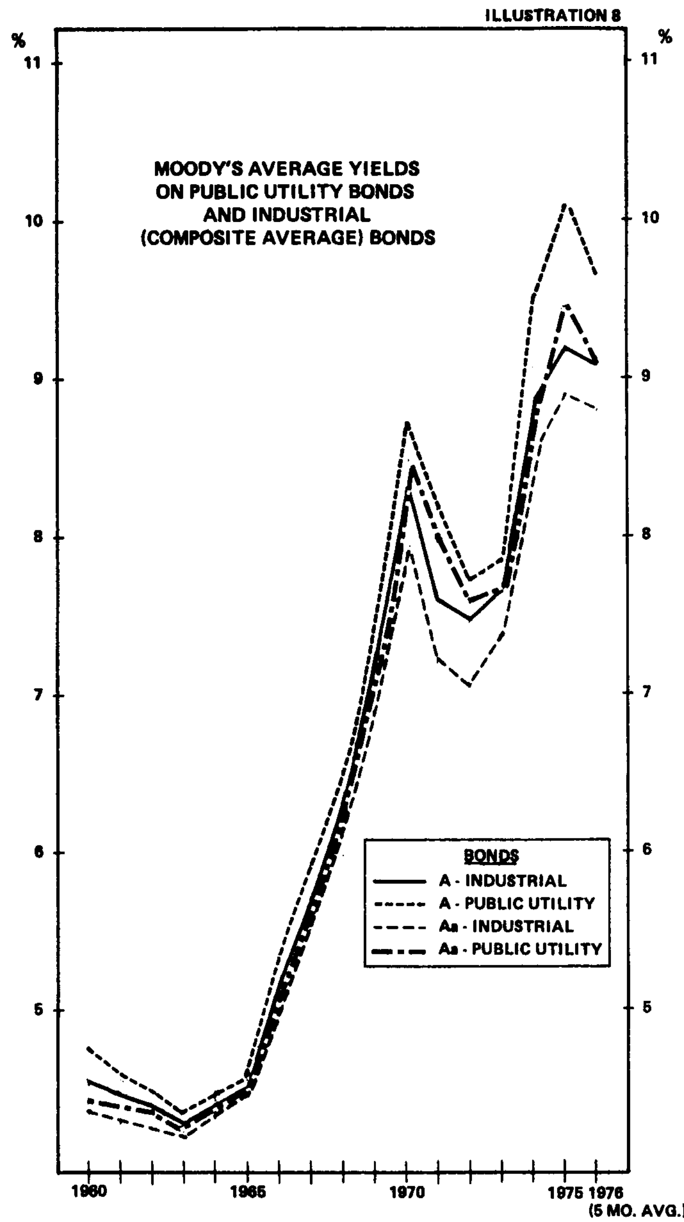


Source: Federal Power Commission, "Statistics of Privately Owned Electric Utilities in the United States."

More importantly, Illustration 8 shows the average cost rates of new debt securities (rated A and Aa by Moody's) issued by public utilities compared with the interest rates

Increases In
Capital Costs (Cont'd)

on comparable industrial bonds issued over the same time span.



Source: Moody's Public Utility Manual, 1976, p. (a) 38-42.

Illustration 8 shows the trends over the past fifteen years of substantially increasing interest rates and generally, an increasing spread in the capital cost rate between investment grades and between utility and industrial bonds of the same grade.

Increases In
Capital Costs (Cont'd)

The bond yield trends depicted in Illustration 8 reflect the following actual cost rates and spread between rates:

	Moody's Bond Ratings		
	A	Aa	Spread
For public utility bonds-			
In 1975	10.09%	9.44%	.65%
In 1965	4.58	4.52	.06
Increase	5.51	4.92	.59
Percent increase	120%	109%	
For industrial bonds-			
In 1975	9.21%	8.90%	.31%
In 1965	4.55	4.50	.05
Increase	4.66	4.40	.26
Percent increase	102%	98%	

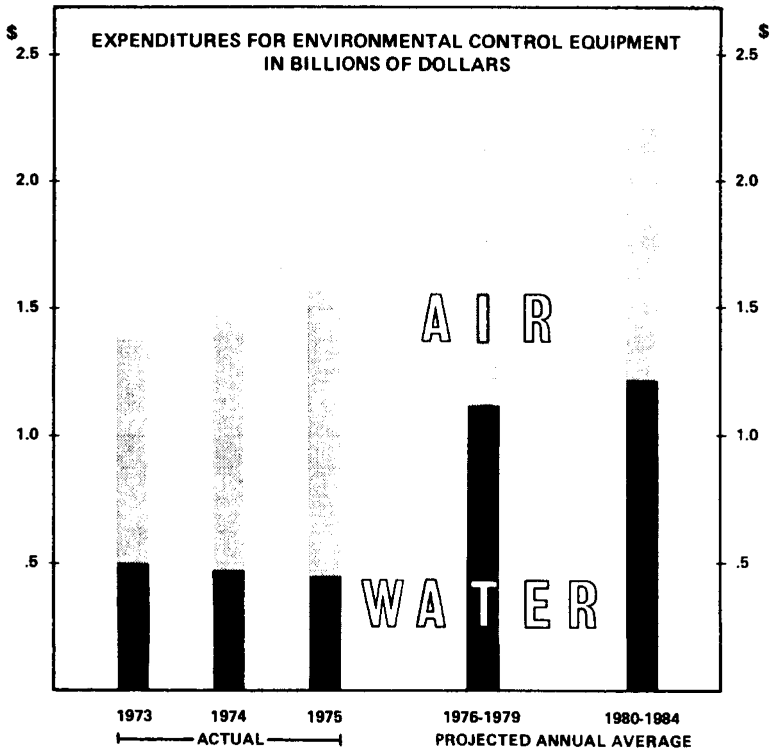
The change in cost rate for many utilities during the period 1965 to 1975 was a result of both a reduction in rating from Aa to A and an increased spread during the period. In such cases the cost increased from 4.52% in 1965 to 10.09% in 1975, an increase of 5.57 or 123%.

This cost increase was significantly influenced by the reduced internal cash generation and lower coverage ratios resulting from increased flow-through of taxes and increased AFUDC in reported earnings. These influences are explained in the Duff and Phelps report in Section VI.

Effect of Environmental Protection Requirements on Capital Costs

Another increasingly significant factor affecting utility construction costs is the cost of meeting environmental protection requirements. Federal and state requirements for environmental protection have become more and more stringent. Illustration 9 reflects the magnitude of expenditures by the electric utility industry for required environmental protection equipment in recent years, together with available projections as to future requirements. During the three years 1973-1975, the cost of required pollution control equipment aggregated almost $5 billion, or 9% of plant additions for the period. In contrast, expenditures for such equipment from 1976 through 1984 are estimated to total $21 billion.

ILLUSTRATION 9



Source: Historical: "Survey of Current Business," July 1975 and July 1976, p. 14, 16.
Projections: "Advisory Committee Report: The Financial Outlook for the Electric Power Industry," Federal Power Commission, The National Power Survey, December 1974, p. 85.

Effect of Environmental Protection
Requirements on Capital Costs (Cont'd)

This $26 billion additional investment required for environmental protection does not produce one kilowatt of electricity or dollar of revenue. This amount does not allow for inflation, for the cost of carrying such an investment or for productivity losses created by the installation of such facilities.

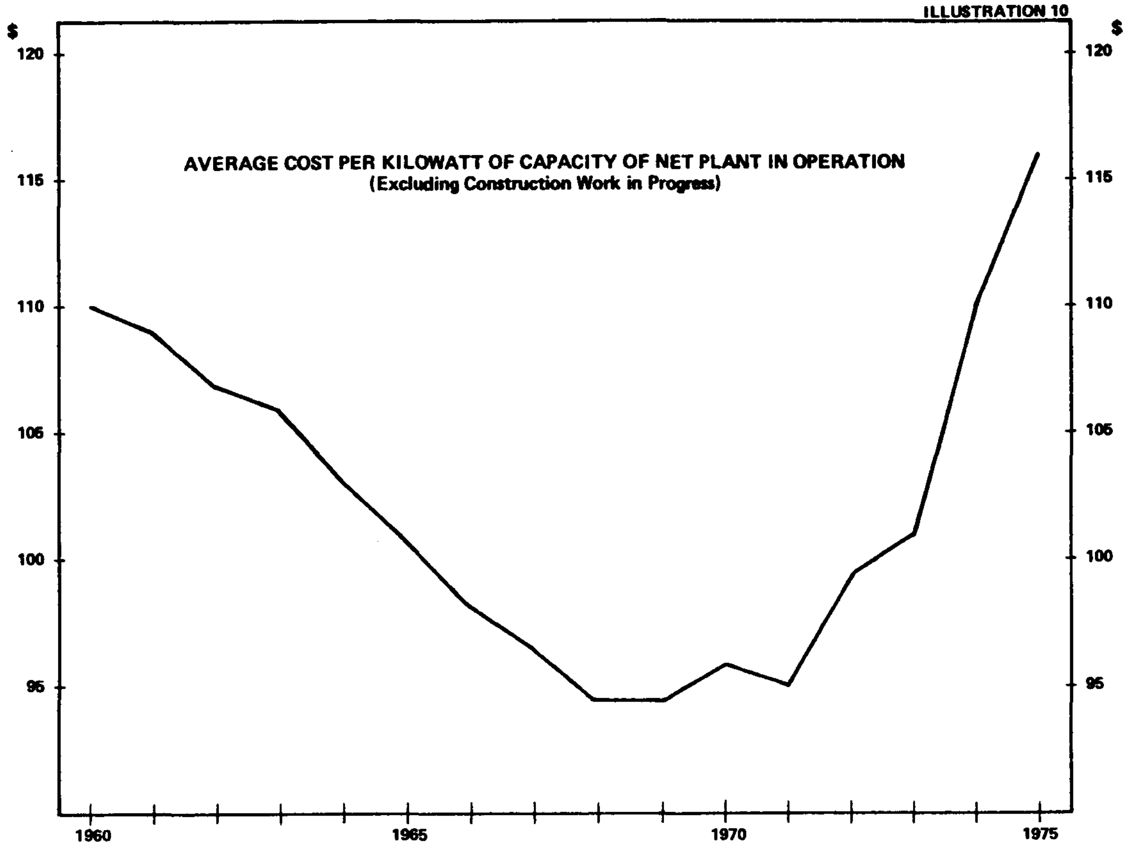
Overall Trend of Aggregate
Construction Costs

The factors just covered (increasing per capita consumption of electricity, increasing capital intensity of plant, continuing inflation, increasing capital costs and environmental protection costs) have each impacted plant costs as set forth in Illustrations 10 and 11.

Illustration 10 reflects the embedded plant investment (gross cost of generating plant less accrued depreciation at the end of each year) per kilowatt (KW) of installed generation capacity for the historical period 1960 through 1975. As shown thereon, such costs dropped from

$110 in 1960 to $94 in 1968, and then began a steep climb to over $115 by 1975.

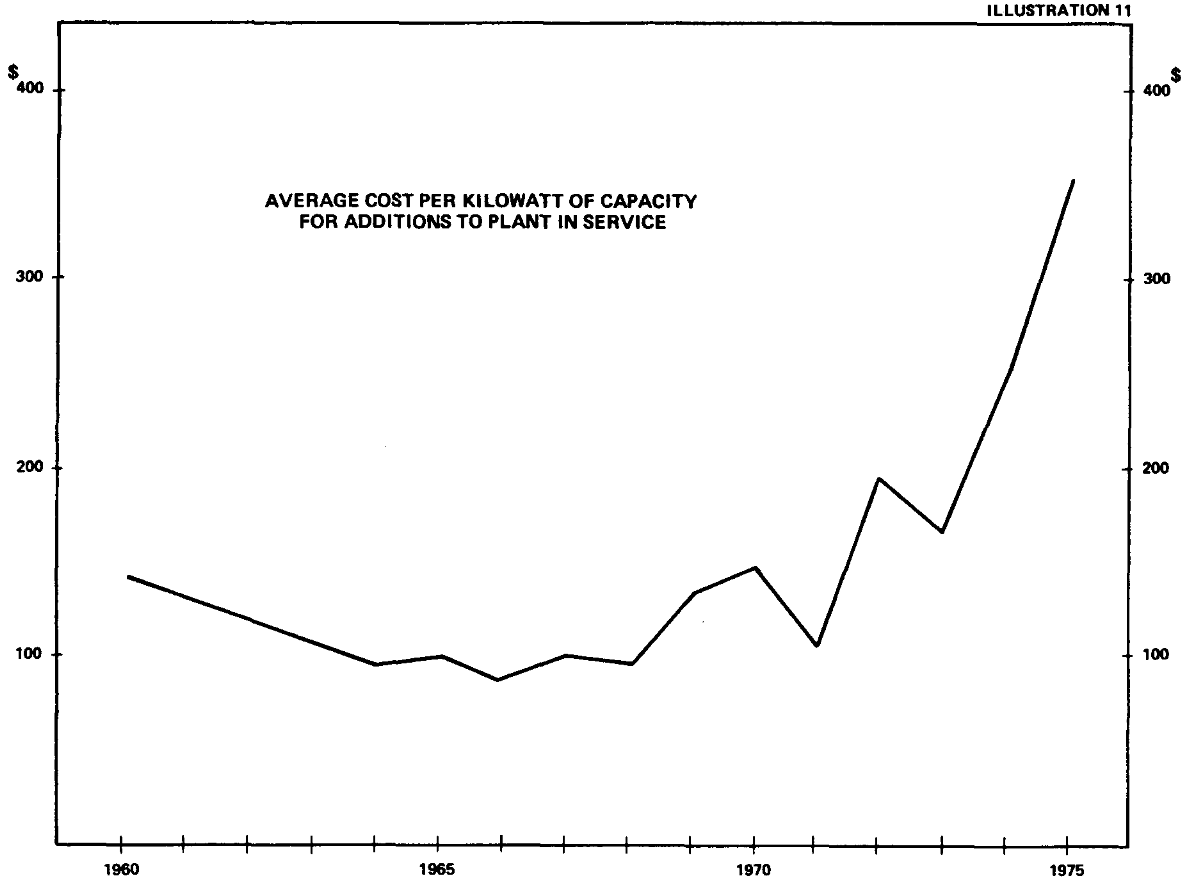
ILLUSTRATION 10



Source: Federal Power Commission, "Statistics of Privately Owned Electric Utilities in the United States."

Perhaps more important and indicative of current trends, however, are the cost increases reflected in Illustration 11. It reflects the historical cost per KW of newly installed generating capacity for each year from 1960 through 1975.

ILLUSTRATION 11



Source: Federal Power Commission, "Statistics of Privately Owned Utilities in the United States."

The cost per KW of newly installed capacity has increased from $149 in 1960 to almost $400 in 1975. This increase represents a compound annual rate of increase of 6.4% from 1960 through 1975. The historical costs depicted in Illustration 10 represent the investor-owned electric utility industry measured in terms of 1975 dollars unadjusted for future inflationary impacts.

Overall Trend of Aggregate
Construction Costs (Cont'd)

In summary, construction expenditures can be expected to continue the dramatic rise experienced in recent years.

Section II

FINANCING ELECTRIC UTILITY CONSTRUCTION REQUIREMENTS

To finance the construction expenditures described in Section I, the utilities must raise large amounts of capital.

There are essentially two sources of capital on which utilities must rely to finance new construction - external sources and internal sources.

External Capital The sources of additional external capital that would certainly be utilized by utility companies include sales of additional debt, sales of additional equity (both common and preferred), and others, such as leasing. The selected source of external financing will depend upon the market conditions at the time of financing, the need to maintain satisfactory debt and equity ratios, the cost of other forms of financing, and the various risks and benefits with respect to each type of financing. For this study, we have assumed that additional debt and equity financing are supplied in approximately the same ratios as the existing capitalization. The Edison Electric Institute (EEI) has reported that construction expenditures will approximate $122 billion over the next five years and that about 60% of the total, $73 billion, will have to be raised from outside sources.

External Capital (Cont'd)

These external financing requirements are only those required to finance new construction expenditures. During the next ten years significant amounts of utility debt securities will mature. Much of this maturing long-term debt carries relatively low interest rates and, when refinanced, will carry a much higher interest rate. This will put a further burden on the money markets and will further increase the cost of utility service in the succeeding years.

Internal Cash Generation The 40% of construction funds to be generated internally, based on the EEI financing estimates, is higher than the percentage of funds generated during recent years, as shown on page II-13. The report of Duff and Phelps, Inc. in Section VI describes the difficulties faced and the potentially higher cost that result when a high percentage of funds for construction expenditures must be raised externally; hence, attainment of the 40% is of concern to consumers and others affected by the cost and availability of electricity.

The three major sources of internally generated funds for a public utility are (1) retained earnings, (2) depreciation provisions and (3) deferred income taxes.

Internal Cash Generation (Cont'd)

Retained earnings is the amount of the utilities' net income which is retained in the business after the payment of preferred and common dividends. Because a significant portion of many utilities' net income is provided by the Allowance for Funds Used During Construction, a noncash source of income, retained earnings have supplied very little internally generated cash for many utilities in recent years. In fact, as shown on Illustration 14 on page II-17, dividends exceeded the cash portion of current earnings in 1974 and 1975 for the industry.

Depreciation provisions have always been a significant source of internal funds. As utility plant investments have increased, the provisions for depreciation have increased. In addition, electric utilities during the last ten to fifteen years have moderately increased the depreciation rate and this has provided additional internal funds.

Special incentive provisions in the income tax laws have become a third source of internal funds. These incentives are of two types: those which permit taxpayers to defer the payment of taxes, thereby making interest free funds available; and those which grant a credit against taxes otherwise payable based on a percentage of construction expenditures. These tax incentives are discussed in Section IV of this report. When rate-making is on the "normalization" basis, the funds provided by these deferrals and tax credits are available for certain periods as a source of funds for financing construction expenditures. The funds are interest-free to the utility. The benefit of the interest-free capital is regularly passed on to customers through a reduction in the rate base by the amount of such funds or by considering the interest-free capital in the rate of return computation.

Balancing the Interests of Consumers and Investors

The regulatory process involves a balancing of the interests of the consumer in adequate service, in continued service and in reasonable rates and the interests of the investor in the return of the investment he has made in the utility and in a fair return on his investment. This fundamental ratemaking concept was enunciated in the landmark U.S. Supreme Court decision, Federal Power Commission v. Hope Natural Gas Co., 320 U.S. 591 (1944). Obviously, the degree to which rate setting by the regulatory agency meets the needs of the investor will affect the investor's willingness to commit funds to an enterprise in the future. Approximately 80% of the financing of electric expenditures is supplied by private investors as opposed to governmental units. The concerns and reactions of the private investor are critical in an analysis of the sources of capital for financing construction of new electric plant.

Raising Capital For Electric Utility Construction and the Investor

In our economy, investors may select a particular security from a vast array of possible choices in many industries. He makes an investment with the expectation of two future economic benefits - a return of the principal amount of the investment and a return on the investment that would provide a rate of return equivalent to that available in situations of comparable risk. Investment in securities is based on this expectation whether the securities are those of utilities, industrial companies or governmental units.

Public utility investors must look to the process of utility rate regulation in weighing the likelihood of the capital investment being recovered and the return being adequate. If the regulatory process fails to provide a return of investor funds by way of an adequate recovery of capital through depreciation allowances, plus a fair rate of return on investment, the invested capital of existing investors will be confiscated at a loss to investors and they will either not purchase utility securities in the future or will demand a much higher rate of return and possibly other measures to protect their capital.

Investors know that a utility investment involves a commitment of funds for a number of years, including a relatively long construction period (in many cases now exceeding ten years) which is followed by a relatively long operating life of twenty to forty years. Investors - particularly institutional investors who invest the funds of others, such as insurance companies, pension funds and trustees for foundations, and estates - must be prudent; they will not commit funds to a utility company unless they can foresee adequate compensation both during the construction period and the operating period.

Reference is made to Section VI, to the report prepared by Duff and Phelps, Inc., public utility analysts.

In evaluating an investment, the investor must weigh the degree of probability that his expectation of the return of his capital investment and a fair return on it will be achieved. A prime concern would be the degree of probability that his capital will be preserved. If the investment is debt, he is concerned about receiving the principal amount at maturity. If he is an equity investor, he would hope that the return of the investment, when he sells it, would reflect some factor for inflation. With respect to a utility company, the recovery of capital is a primary function of the depreciation provision. Inadequate depreciation provisions are of grave concern to utility investors. The investor is also concerned when capital recovery is accelerated for tax purposes and such recoveries are not recognized and retained by the utility as a capital recovery in a reserve comparable to the depreciation reserve.

As to receiving a fair return on his investment, the investor would have several concerns:

- Does the utility operate under a regulatory climate that provides reasonable expectation that it will be allowed adequate rate relief on a timely basis;
- Will the allowed rates of return be adequate; and
- Will the utility be able to earn its allowed rate of return?

The investor is concerned about the effect that current rate-making processes will have on a utility's ability to recover its capital and to earn a fair return in the future. He is aware that rates to future consumers will unquestionably be higher per kilowatt-hour but any steps taken now which can have the effect of reducing the necessity for future rate increases to consumers would be considered a positive sign by the investor.

In connection with the evaluation of a utility investment, there are certain specific factors which a potential investor examines with special care. One such factor is the ratio of debt to total capitalization, including shareholders' equity. Traditionally, utilities' debt to capitalization ratios have ranged from approximately 48% to 60%. The 60% level often forms the upper limit because many bond indentures effectively limit bonded indebtedness to 60% to 67% of utility plant. The higher the debt ratio, the greater risk to the debt holder because of the greater amount of interest charges, that must be paid and the greater risk to the equity holder because of the smaller portion of revenues remaining after meeting these interest charges. In a company with a high debt ratio, a small percentage drop in revenues could produce a large percentage decline in net income since the fixed debt charges would not be reduced.

Several other factors which are particularly important in an evaluation of utility company securities are discussed in greater detail below. These factors are: fixed charge or interest coverage ratios; percentage of construction requirements covered by internally generated funds; and quality of earnings reported to investors.

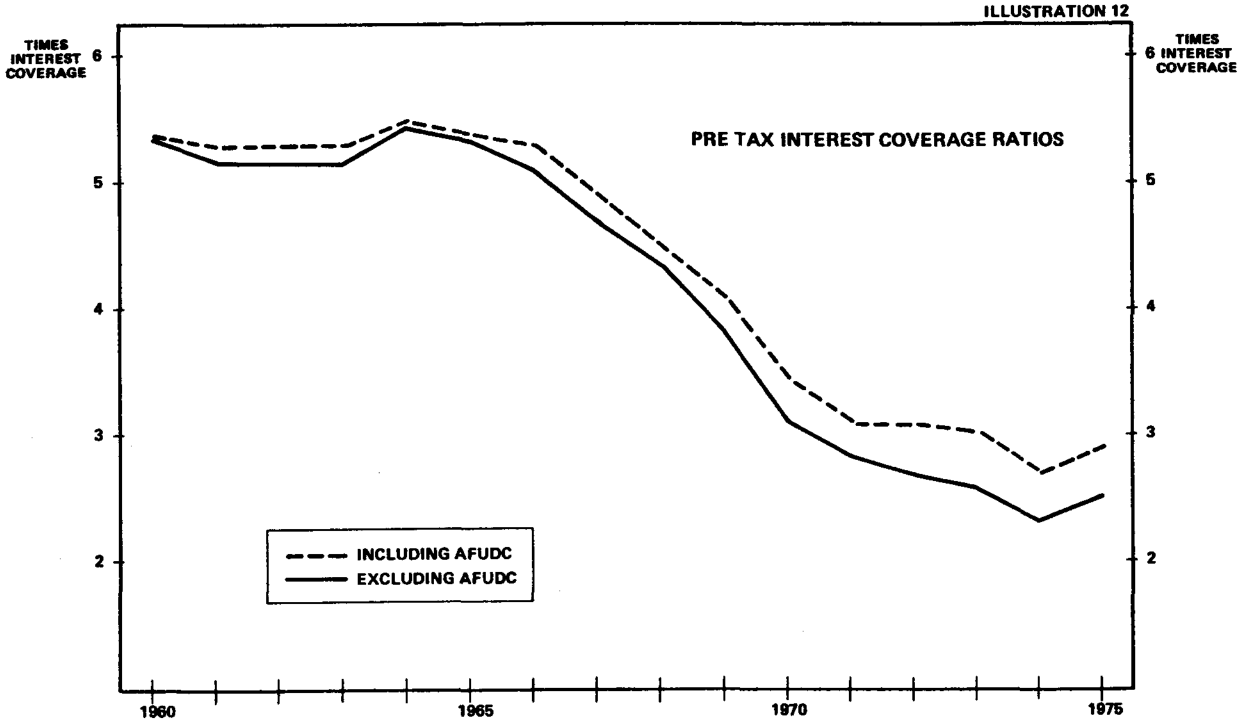
Interest Coverage Ratios   A measure that investors consider significant in evaluating the securities of electric utilities (or any security) is the relationship of current pretax earnings to interest charges, commonly referred to as the interest coverage ratio.

This ratio is included in registration statements for debt securities filed with the Securities and Exchange Commission, based on a formula prescribed by the SEC. Under trust indentures covering long-term debt, the ability of the utility to issue additional long-term debt is usually restricted unless an interest coverage ratio specified in the indenture is met. Typically, additional debt cannot be issued unless earnings, as defined, are at least two times the annual interest charges on outstanding long-term debt plus the annual interest on the new debt to be issued. In many instances, indentures of electric companies contain limitations on the amount of the allowance for funds used during construction that can be included in "earnings" for purposes of calculating the ratio.

Illustration 12 has been prepared to show the trend of this important financial ratio over the last fifteen years. It shows substantial deterioration in this important measure.

Interest Coverage Ratios (Cont'd)

ILLUSTRATION 12



Source: Federal Power Commission "Statistics of Privately Owned Utilities in the United States."

The coverage ratios in Illustration 12 are shown with all reported AFUDC in earnings available for coverage and with no AFUDC in earnings. As indicated in Illustration 12, there is a substantial downward trend in coverage ratios from 5.4 in 1960 to 2.9 in 1975 when AFUDC was included in earnings available for coverage. When AFUDC was excluded from earnings available for coverage, the coverage ratios drop from 5.3 in 1960 to 2.5 in 1975. Indenture limitations normally would allow some, but not all, AFUDC to be includable in earnings for coverage, so the trend line for many utilities would lie somewhere between the two lines in Illustration 12.

Interest Coverage Ratios (Cont'd)

The following table sets forth the pretax coverage ratios for electric utilities, separately computed for flow-through and normalization companies. As can be seen, the ratios, derived from the Compustat Utility Tapes, are consistently lower for flow-through companies:

	Pretax Earnings Coverage Ratios (excluding AFUDC)	
	Flow-Through	Normalization
1971	2.65	3.68
1972	2.75	3.65
1973	2.53	3.41
1974	2.28	2.91
1975	2.50	3.02

In view of these declining ratios, investors are concerned as to the ability of the electric industry to finance the additional capital investments projected for the next ten years without substantial rate increases. New debt financings at levels above embedded costs and the refinancing of maturing low cost debt with higher cost debt will put great pressure on coverage ratios in the coming years. Inadequate coverage ratios will seriously impair the ability of utilities to finance externally the projected capital expenditures, both because of indenture limitations and because of investor dissatisfaction with dangerously low coverage ratios. As illustrated above, the coverage ratio problem, which is serious for all utilities, is accentuated when a significant portion of earnings are provided by AFUDC or when flow-through accounting is followed for rate-making purposes.

Percentage of Construction Requirements Covered by Internally Generated Funds

The following tabulation sets forth the percent of construction expenditures by electric utilities that have been covered by internal cash generation in each of the years from 1966 to 1975. Separate percentages are shown for normalization and flow-through companies. The sources of internally generated funds in these computations is the sum of (1) retained earnings exclusive of AFUDC, (2) provisions for depreciation and (3) net provisions for deferred income taxes and investment credit. Construction expenditures have been reduced by the amount of AFUDC included therein.

Percentage of Construction
Requirements Covered by
Internally Generated Funds (Cont'd)

Percent of Construction Expenditures (less AFUDC) Covered by Internal Sources of Funds

	Normalization Companies				Flow-Through Companies				All Companies
	Retained Earnings less AFUDC	Depre-ciation	Deferred Taxes and Investment Credit	Total	Retained Earnings less AFUDC	Depre-ciation	Deferred Taxes and Investment Credit	Total	Total
1966	15%	33%	5%	53%	13%	35%	(1%)	47%	50%
1967	13	30	4	47	11	29	-	40	43
1968	9	28	5	42	7	27	-	34	38
1969	8	26	4	38	5	25	-	30	34
1970	5	23	3	31	3	24	(1)	26	29
1971	3	22	5	30	2	22	-	24	27
1972	3	21	10	34	1	22	1	24	28
1973	2	22	8	32	2	22	1	25	28
1974	(2)	21	9	28	(2)	23	3	24	26
1975	-	26	15	41	(1)	29	6	34	38

Source: Compustat Utility Tapes

Percentage of Construction Requirements Covered by Internally Generated Funds (Cont'd)

As can be seen, the internally generated funds have steadily declined as a percent of construction expenditures and in recent years were below the 40% level. The rise in 1975 is accounted for by the drop in construction expenditures. In relation to either 1974 or 1976 construction expenditures, the percent internally generated in 1975 is about 35%. In addition, the percentages for flow-through companies are even lower, showing the increased requirements that flow-through companies have for external financing. The more outside financing that is required for a particular quantity of productive property additions, the greater the burden on future consumers and investors.

Quality of Earnings Reported to Investors

Investors are particularly concerned with the sources of a company's earnings and how rapidly they are realized in cash. The process of capitalizing AFUDC is recognized as an acceptable means of assuring sufficient earnings to cover the cost of financing construction programs. The limitation of recovery of the financing costs in cash during the service life of the plant was acceptable to investors when AFUDC was fairly stable and only a relatively small portion of earnings. However, as the generating plants and transmission facilities called for much larger capital commitments and the length of the construction period doubled from five to ten years, the portion of earnings represented by AFUDC grew to such a level that postponing cash recovery of construction financing costs to the 20- to 30-year period after completing construction became a real concern. In some cases, the cash earnings during a given year for a given utility were not sufficient to cover current interest and dividends, and in 1973 and 1974 the total cash earnings for the industry as a whole were less than total interest and dividends for each of those years.

AFUDC accounting is an acceptable form of accounting and was a practical approach until AFUDC became such a large portion of earnings that cash recovery of financing costs became risky. Increasing risks cause investors to reexamine the nature and source of earnings and reevaluate the quality or calibre of the earnings. Higher relative risks and reduced quality of earnings bring lower securities ratings and higher cost of capital.

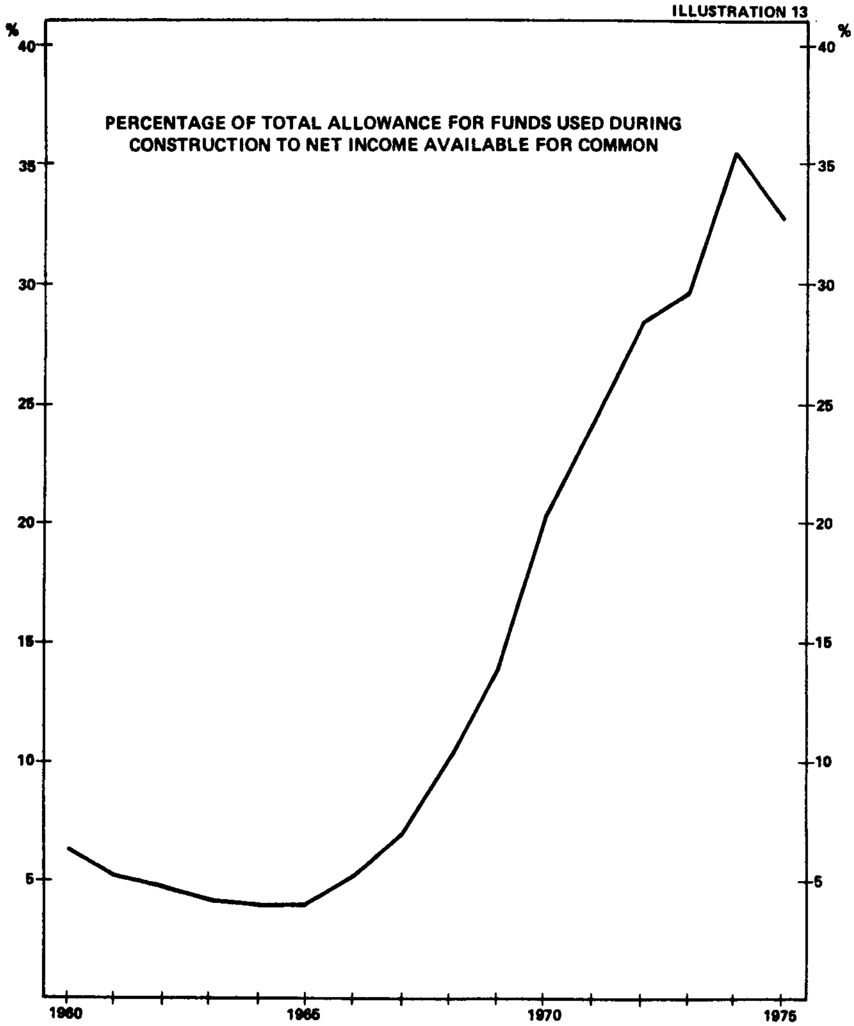
Recognition of Noncash Income-AFUDC

The practice of capitalizing the financing costs related to Construction Work in Progress (CWIP) and of reporting such capitalized amounts as a noncash source of current income (AFUDC) is presently the predominant practice in the electric utility industry.

Recognition of Noncash
Income-AFUDC (Cont'd)

The increase in construction costs and the magnitude of capacity additions in the electric industry have magnified the adverse effects of this practice on cash flows. The level of AFUDC is influenced directly by the level of CWIP, length of construction periods and the cost of capital. As a result, in recent years AFUDC has reached unprecedented proportions in relation to total reported earnings in the electric utility industry. This is depicted below:

ILLUSTRATION 13



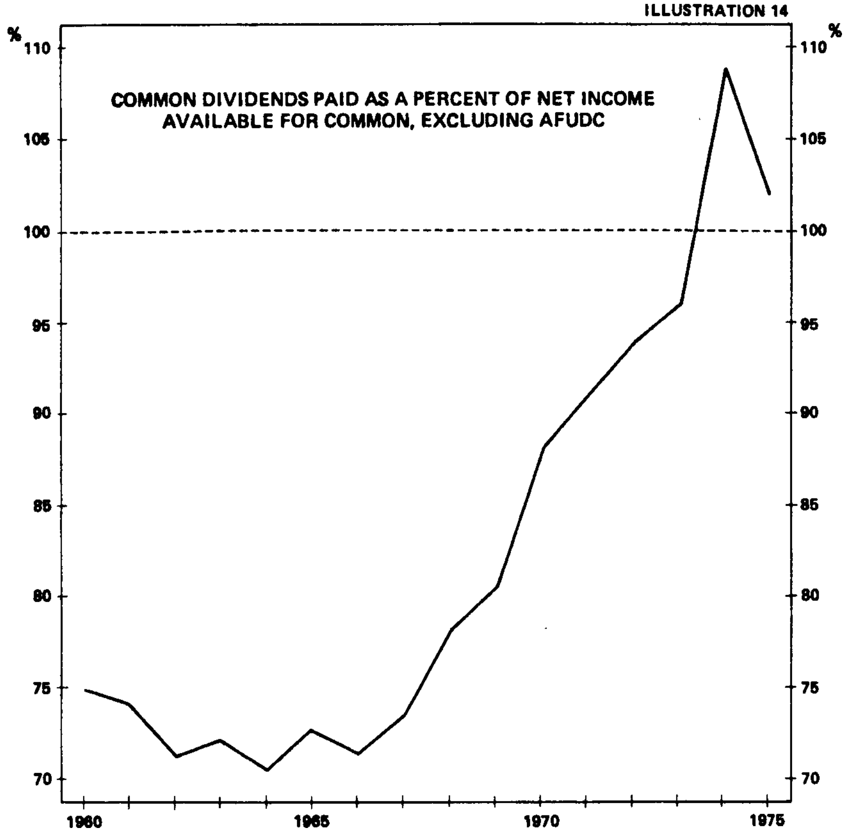
Source: Federal Power Commission, "Statistics of Privately Owned Electric Utilities in the United States."

Recognition of Noncash
Income-AFUDC (Cont'd)

As shown on Illustration 13, AFUDC, as a percentage of net income available for common, has grown from 6% in 1960 to 33% in 1975. AFUDC was approximately 18% of operating income in 1975.

The impact on the quality of earnings is reflected in the increasing percent of net income available to common, excluding AFUDC, required to pay current dividends on common stock. This trend is shown in Illustration 14. Investors would be expected to be wary of an investment situation in which 102% of cash earnings from operations are required for dividend payments, particularly when this ratio had increased over the last fifteen years, as shown below:

ILLUSTRATION 14



Source: Federal Power Commission, "Statistics of Privately Owned Electric Utilities in the United States."

Recognition of Noncash Income-AFUDC (Cont'd)

The investment community has indicated that the AFUDC method of reporting earnings is an inadequate substitute for earnings supported by cash.

The position of the investment community was reported in Business Week articles. AFUDC was referred to as "Psychedelic Accounting" (July 27, 1974, p. 53) and "A Case of Phantom Profits" (June 15, 1974, p. 87). Forbes reported in an article entitled "The Sheep and the Goats" (June 15, 1974, p. 28), that the electric utility earnings are not what they appear to be inasmuch as they are increased by devices such as capitalization of interest charges during construction, and the addition of such amounts to income. Many analysts believe that the securities markets substantially discount AFUDC earnings. Reports of utility analysts frequently exclude AFUDC from earnings to show what they consider to be the "real earnings" realized from the sale of electricity. Further, the rating agencies make important computations of coverages by excluding part of AFUDC from the earnings available for coverage.

Similarly, analysts often make comparisons of dividends paid with earnings that exclude AFUDC. They realize that if dividends exceed earnings exclusive of AFUDC, the reported retained earnings are generating no cash flow for investment in construction and that AFUDC earnings represent a call on uncertain future cash generation. In addition, the utility must sell additional securities in order to obtain funds to pay dividends. Regardless of accounting theory, earnings reflecting significant AFUDC lack credibility in the financial community. This weakness in AFUDC has seriously impaired many utilities' ability to finance construction and has increased the cost of money to utilities and to consumers. These and similar matters are discussed in greater detail in Section VI.

The Securities and Exchange Commission requires financial reports filed by a utility to disclose the percentage of net income provided from either the equity portion or from the total of AFUDC. The investment community considers this as further evidence that AFUDC earnings are "different," "suspect," or of lower quality.

In November 1974, the Securities and Exchange Commission issued its Accounting Series Release No. 163. This release provided a moratorium on the capitalization of interest costs by certain companies, specifically those companies which had not, as of June 21, 1974, publicly disclosed an accounting policy of capitalizing interest costs. While electric, gas, water and telephone utilities were excluded from this release, its issuance focused

Recognition of Noncash Income-AFUDC (Cont'd)

increased attention of the investment and financial communities on the AFUDC practices of utilities, furthering the conclusion that such earnings were not "real" since many nonutilities could not include such amounts in earnings.

The Reduced Quality of Earnings When Recognition of Costs is Postponed

Investors consider the quality of earnings to be lower where cost recognition is ignored or postponed. Even though such postponed costs are expected to be recovered in future rates, investors recognize that the burden of trying to collect such costs from future consumers imposes an additional risk on the investor, particularly when consumer rates continue to escalate rapidly.

The cost postponement which occurs under flow-through accounting and rate-making for income taxes, as described in Section IV, exemplifies a practice which reduces the quality of reported earnings in the judgment of investors. Evidence of this is contained in the Duff and Phelps, Inc. Report in Section VI. When a provision for deferred income taxes, which all commercial and industrial business must record, is ignored in the current determinations of reported income, on the premise it can be matched against a hope for future higher revenues, it is understandable that investors

The Reduced Quality of Earnings When Recognition of Costs is Postponed (Cont'd)

would downgrade such earnings even though they are reported in accordance with a practice which may be permitted or accepted in certain jurisdictions for certain utility companies.

CWIP and Normalization: Proposed Means of Alleviating the Electric Industry Construction Financing Problems

The two proposed rate-making techniques would increase internally generated funds, improve coverage ratios, decrease the amount of capital required in the future, decrease future revenue requirements related to property currently being constructed, and produce reported earnings which investors would consider to be of a higher quality.

Section III analyzes in detail the technique of including Construction Work in Progress in the rate base in contrast to excluding Construction Work in Progress from the rate base and reporting a noncash form of income, an Allowance for Funds Used During Construction.

Section IV analyzes the use of normalization for all the tax-timing differences. Adopting this rate-making technique for cost of service, which is consistent with the cost determination and accounting procedures followed by all industrial and commercial companies, would also increase internally generated funds, improve coverage ratios, decrease the amount of invested capital required in the future, decrease future rate base, decrease future revenue requirements from consumers and produce earnings that investors would consider to be a higher quality.

Because both of these rate-making techniques require an increase in current consumer rates initially, opposition is to be expected. Including substantial Construction Work in Progress in the rate base is presently allowed in relatively few jurisdictions, although there is an increasing trend in this practice. The rate-making concept of normalization has been accepted by the majority of rate regulating commissions and the trend toward full normalization for all tax-timing differences is continuing. The arguments used in opposition to these techniques are also analyzed and explained in Sections III and IV.

Both of these rate-making methods increase the rate of recovery of capital thereby reducing future requirements for a "return on" and "return of" (depreciation) capital from consumers. Both of the rate-making methods described in this study are procedures (within the framework

CWIP and Normalization:
Proposed Means of
Alleviating the Electric
Industry Construction
Financing Problems (Cont'd)

of existing regulatory processes) that would effectively increase the rate of capital recovery. Thus, the critical issue becomes: is a faster rate of capital recovery justified and desirable from the point of view of the consumer, from the point of view of the investor, and from the point of view of the public?

Section III

INCLUSION OF CONSTRUCTION WORK IN PROGRESS IN THE RATE BASE

Including Construction Work in Progress (CWIP) in the rate base, as distinguished from excluding it from the base and capitalizing an Allowance for Funds Used During Construction (AFUDC), would provide substantial additional cash to pay the cost of financing new construction and would improve the quality of earnings sufficiently to reduce the cost of long-term capital needed to pay the direct costs of the construction. Our analyses from which this conclusion evolved and the detailed explanation thereof are explained as follows:

Rate-Making and <u>Financial Reporting</u>

Traditionally, utility rate-making has been based upon the recovery of costs incurred in providing utility service. For this reason, the accounting records not only are the source for accumulating and reporting the historical financial activities of the enterprise, but also serve as the source for establishing the revenues required to be collected in the future. Rate-making controversies have generally not involved the concept of using cost as a basis for rate-making, but rather have involved such issues as in what period should a cost be recognized, are costs incurred in a historical period indicative of the future and how should inflation in costs be reflected in rate-making.

The operating revenues to be collected in consumer rates have traditionally been determined by (1) applying the composite cost rate of the capital (debt and equity) invested in the business (referred to as "rate of return") to the net cost of utility plant rendering consumer service (referred to as "rate base.") and (2) adding to this product operating expenses (including depreciation and taxes) incurred in rendering service.

Rate-Making and
Financial Reporting (Cont'd)

This procedure can be reduced to the following formula (RR x RB) + OE = R

where:	Rate of Return	=	RR
	Rate Base	=	RB
	Operating Expenses	=	OE
	Revenue Requirement	=	R

Utilities' financial statements and the Uniform Systems of Accounts prescribed by the rate regulatory commissions reflect this basic rate-making formula. The balance sheet and income statement on the following page show use of AFUDC and exclusion of CWIP from the rate base and assure that the earned return is equal to the cost of capital and allowed return. The various income statement captions are matched to the applicable portions of the rate-making formula.

Balance Sheet

Assets		Liabilities and Equity	
Plant in service (net of depreciation)	$400	Debt at 8%	$250
CWIP	100	Equity (estimated fair return of 12%	250
	----		----
Total assets	$500	Total liabilities and equity	$500
	====		====

Income Statement		Rate-Making Formula
Revenues	$134	Revenue requirements (R)

Operating expenses -		
Fuel	30	Operating expenses (OE)
Other operation	8	
Maintenance	12	
Depreciation	10	
Income taxes	24	
Other taxes	10	

Total expenses	$ 94	

Operating income	40	Cost of capital invested in rate base. Rate base (RB) x Rate of return (RR)
Other income -		
Allowance for funds used during construction	10	Composite cost of capital invested in CWIP

Income before interest	50	Composite cost of capital invested in rate base and CWIP
Interest	20	

Net income	$ 30	
	====	

Translating the above directly to the rate-making formula produces: RR (10%) x RB ($400) + OE ($94) = R ($134).

Rate Making As Applied To
Construction Work In Progress

As shown in the Income Statement on the preceding page, the operating income of $40 is not sufficient to service capital ($20 of interest on debt plus $30 return to equity holders). This is because the composite cost of the capital (10%) is applied to a rate base of $400 which excludes CWIP. By including the cost (10%) of the capital invested in CWIP ($100) as an element of Other Income (AFUDC), net income is sufficient to provide a reported return on equity of 12%, which has been assumed to be the cost of equity. Under these conditions, however, the cash to service the dividend requirements on these securities must be obtained by issuing additional securities.

By including CWIP of $100 in rate base (RB) to which the 10% rate of return (RR) is applied, and by increasing income taxes applicable to the increased revenues to be collected, revenues (R) to be collected from customers would provide $10 in additional cash funds to service the capital in construction work in progress.

A Simplified Income Statement
with CWIP in the Rate Base and
with AFUDC Being Capitalized and
the Differing Economic Effects

The following compares income statements (1) with CWIP in the rate base and (2) with AFUDC being capitalized:

A simplified Income Statement
with CWIP in the Rate Base and
with AFUDC Being Capitalized and
<u>the Differing Economic Effects (Cont'd)</u>

	CWIP in Rate Base	AFUDC Capitalized	Difference
Revenues	$150	$134	$ 16
Operating expenses -			
Income taxes	30	24	6
Other	70	70	-
Total expenses	100	94	6
Operating income	50	40	10
Other income -			
AFUDC	-	10	(10)
Income before interest	50	50	-
Interest	20	20	-
Net income	$ 30	$ 30	$ -

As shown above, the cost of financing construction can be recovered from consumers during the construction period (by including CWIP in rate base) or recovery can be postponed to the future and recovered from consumers during periods in which the plant is in operation (by excluding CWIP from rate base and capitalizing AFUDC). If construction work in progress is included in the rate base, current revenues and current cash receipts will be increased because of the collection through current rates of the financing costs applicable to construction.

A Simplified Income Statement
with CWIP in the Rate Base and
with AFUDC Being Capitalized and
the Differing Economic Effects (Cont'd)

If construction work in progress is excluded from rate base so that the costs of financing construction are not recovered in rates currently, these costs, along with all other construction costs, must ordinarily be capitalized on the books if the utility is to retain the right to recover such costs from future consumers. When the cost of financing construction is capitalized in construction work in progress, it is recognized as Other Income[1] in the Statement of Income. This procedure increases the net income for the period as though construction work in progress had been included in the rate base. The comparative income statements on the preceding page demonstrate this.

The example set forth below summarizes the accounting for the two alternative methods of recovering the cost of financing a construction project costing $50,000.[2]

---

1 Under rules which the FPC has adopted in Order No. 561 effective January 1, 1977, the element of AFUDC representing the debt cost of financing construction is to be credited to interest charges, in effect offsetting the related debt interest. The element of AFUDC representing the estimated cost of (return on) equity money is credited to Other Income.

2 A third rate-making method which often is used is to include CWIP in rate base, to capitalize AFUDC, and to reduce revenue requirements by the capitalized AFUDC. If the AFUDC rate used is comparable to the rate of return allowed on rate base by the regulatory commission, the effect is similar to not including CWIP in rate base. If the AFUDC rate is lower, some rate-making effects similar to the inclusion of CWIP in rate base would be achieved.

A Simplified Income Statement
with CWIP in the Rate Base and
with AFUDC Being Capitalized and
the Differing Economic Effects (Cont'd)

		Including $50,000 Construction Project		
		CWIP Not in Rate Base		
	Before Construction (1)	AFUDC Not Capitalized (2)	AFUDC Capitalized (3)	CWIP in Rate Base (4)
Revenues	$ 80,000	$ 80,000	$ 80,000	$ 88,000
Operating expenses (including $8,000 depreciation)	(60,000)	(60,000)	(60,000)	(63,000) (a)
Operating income (return)	20,000	20,000	20,000	25,000
AFUDC	-	-	5,000	-
Interest charges	(8,000)	(10,000)	(10,000)	(10,000)
Net Income	$ 12,000	$ 10,000	$ 15,000	$ 15,000
Capitalization consists of -				
Equity (12% cost)	$100,000	$125,000	$125,000	$125,000
Debt (8% interest)	100,000	125,000	125,000	125,000
Total	$200,000	$250,000	$250,000	$250,000
Return on equity	12%	8%	12%	12%

(a) Includes $3,000 additional income taxes because of higher revenue requirement applicable to increased taxable income required to maintain equity return.

Preserving the return on equity through capitalization of AFUDC (as shown in column 3) is considered an acceptable accounting method when CWIP is not included in rate base and the rate-making process allows higher rates in the future to recover the capitalized AFUDC. Because, by longstanding regulatory procedures in this country, capitalized AFUDC has been allowed in rate base and in the depreciation base, the current capitalization represents a call on future consumers for increased revenues and is considered a proper element of current income.

However, capitalization of AFUDC does not produce additional cash flow but actually reduces cash flow, as shown below. Further, if AFUDC is not allowed in earnings available for interest coverage--and at least a partial disallowance is common in electric utility mortgage indentures--coverage ratios drop when CWIP is not allowed in rate base, as shown on the next page.

A Simplified Income Statement
with CWIP in the Rate Base and
with AFUDC Being Capitalized and
the Differing Economic Effects (Cont'd)

		Including $50,000 Construction Project		
		CWIP Not in Rate Base		
	Before Construction (1)	AFUDC Not Capitalized (2)	AFUDC Capitalized (3)	CWIP in Rate Base (4)
Cash flow computation				
Revenues	$ 80,000	$ 80,000	$ 80,000	$ 88,000
Operating expenses exclusive of $8,000 depreciation	(52,000)	(51,000) (b)	(51,000) (b)	(55,000)
Interest	(8,000)	(10,000)	(10,000)	(10,000)
Dividends (70% of net income, 8.4% of equity)	(8,400)	(10,500) (a)	(10,500)	(10,500)
Cash flow	$ 11,600	$ 8,500	$ 8,500	$ 12,500

(a) Assumes that dividends are maintained at 8.4% of book equity.

(b) Assumes additional interest expenses produce $1,000 reduction in taxes payable which are deferred.

		Including $50,000 Construction Project		
		CWIP Not in Rate Base		
	Before Construction (1)	AFUDC Not Capitalized (2)	AFUDC Capitalized (3)	CWIP in Rate Base (4)
Interest coverage (excluding AFUDC)				
Net income	$ 12,000	$ 10,000	$ 15,000	$ 15,000
Add: interest	8,000	10,000	10,000	10,000
Add: income taxes (assumed 50% rate)	12,000	12,000	12,000	15,000
Less: AFUDC	-	-	(5,000) (c)	-
Available for coverage	$ 32,000	$ 32,000	$ 32,000	$ 40,000
Interest, as above	÷ 8,000	÷10,000	÷10,000	÷10,000
Coverage ratio	4.0	3.2	3.2	4.0

(c) For illustration, all AFUDC is excluded from earnings available for coverage. Only a portion of AFUDC is includable under many indentures.

A Simplified Income Statement
with CWIP in the Rate Base and
with AFUDC Being Capitalized and
the Differing Economic Effects (Cont'd)

The AFUDC rate computation ordinarily considers the cost of both equity and debt funds used to finance construction. Although there is no universally prescribed methodology for computing the AFUDC cost rate, the method followed by most utilities is to calculate the composite cost of total capitalization either on an incremental or an embedded basis. Some utilities use the latest rate of return prescribed by the regulatory agency. In some instances, where large issues of securities are marketed specifically for the financing of specific construction projects, the composite cost of capital has been adjusted to reflect an incremental cost to the extent of such capital considered to be specifically devoted to financing CWIP.

In February 1977, the Federal Power Commission issued Order No. 561 which sets forth a formula to be effective January 1, 1977. Essentially, it provides for the use of the embedded cost of capital and for compounding. To the extent a utility has short-term debt outstanding, it is considered to be entirely used to finance CWIP and the composite effect is included in the computation of the rate.

Simplified Example For a Single Utility, Single Plant Situation - Short Life Property, 100% Debt

As a means of illustrating the effect of CWIP and AFUDC accounting on revenue requirements and cash flow, the following simple example sets forth the general relationships involved. This basic example will be followed by examples using more realistic amounts and time periods. As will be seen, the effects of including CWIP in rate base in contrast to excluding CWIP from rate base and capitalizing AFUDC are the same in each of the examples that will be presented. These effects include:

1. Higher revenue requirements during the construction period offset by lower revenue requirements during the operating period.

2. Lower revenue requirements in total over the combined construction period and operating life.

3. A greater portion of the construction costs being covered by internally generated funds.

4. A smaller requirement for outside financing to build plant of the same productive capacity.

5. A more rapid recovery of capital costs during the combined construction and operating life of the plant.

These effects are accentuated because the practice of excluding CWIP from rate base and capitalizing AFUDC is evaluated by investors as a cause of greater risk. Duff and Phelps, Inc. estimates in their report (Section VI) that the differential in overall cost of money could be from 30 to 70 basis points. The factors described above are among those which cause investors to downgrade the securities of utilities which capitalize AFUDC vis-a-vis the securities of those that do not.

For the first most simplified example, it is assumed that the construction is entirely financed by debt and that debt interest is accounted in the same way for book and income tax purposes. These assumptions are made so that income tax expense will be zero each year (because taxable revenues will equal taxable deductions in each year). Subsequent examples will introduce the variables under which the plant is partly financed with equity and debt interest expense is accounted for differently for book and tax purposes.

Assumptions of the basic example:

1. Construction period of two years, $50,000 added at the beginning of each year.
2. Construction financed entirely with debt costing 8%.
3. Operating life of five years.
4. Straight-line depreciation used for book and tax purposes.
5. When CWIP is excluded from rate base and AFUDC is capitalized, AFUDC (in this case only debt interest) is also capitalized for tax purposes.

Simplified Example For a
Single Utility, Single Plant
Situation - Short Life
Property, 100% Debt (Cont'd)

Exhibit III-1 shows the computation of the revenue requirements over the two-year construction period and the five-year operating life. When CWIP is included in rate base, only the direct costs of construction ($100,000) are capitalized and the rate base (as shown on line 1) includes only the direct costs. Depreciation over the five-year operating life is shown on line 5 and total revenue requirements are shown on line 6. Such revenue requirements total $132,000 over the seven-year construction and operating period.

Lines 7 through 12 set forth the revenue requirements when CWIP is not in the rate base. The cost of construction is $112,320, which includes $12,320 of interest capitalized during the two-year construction period, computed as follows:

Construction to be financed during year 1	$ 50,000
Interest cost at 8%	4,000
Construction to be financed during year 2 -	
Carryover from year 1	54,000
Additional construction expenditures	50,000
Construction to be financed during year 2	104,000
Interest cost at 8%	8,320
Recorded cost of plant to be placed in operation at the end of the two-year construction period	$112,320

Simplified Example For a
Single Utility, Single Plant
Situation - Short Life
Property, 100% Debt (Cont'd)

The total interest cost of $12,320 added to the direct cost of plant when CWIP is excluded from rate base is a cost which must be recovered from future consumers in the rate-making process. Because future consumers must pay for the interest costs initially incurred during the construction period and for the carrying costs on the unrecovered balance, total revenue requirements are $134,784 (line 12) when CWIP is excluded from rate base.

Exhibit III-1 can be utilized to show the five effects referred to earlier of including construction work in progress in the rate base.

1. As shown on lines 6 and 12, when CWIP is included in rate base, the higher revenue requirements during the two-year construction period are offset by the lower revenue requirements during the five-year operating period.

2. As shown by the totals for lines 6 and 12, revenue requirements are lower in total when CWIP is included in rate base ($132,000 vs. $134,784).

3. During the two-year construction period, $12,000 (line 6, columns 1 and 2) of internally generated cash is obtained when CWIP is in rate base and none (line 12) is obtained when CWIP is excluded from rate base.

4. When CWIP is included in rate base, $100,000 of outside financing must be obtained. When CWIP is excluded from rate base, $112,320 of outside financing must be obtained. It is important to note that this additional investment is not supported by any increase in productive capacity of the physical property.

REVENUE REQUIREMENTS FOR DEPRECIATION, RETURN AND INCOME TAXES

CWIP IN RATE BASE AND CWIP EXCLUDED FROM RATE BASE

Line No.		Construction Period 1	Construction Period 2	Operation Period 1	Operation Period 2	Operation Period 3	Operation Period 4	Operation Period 5	Total
	CWIP in Rate Base								
1	Average rate base	$50,000	$100,000	$ 90,000	$70,000	$50,000	$30,000	$10,000	
2	Rate of return	8%	8%	8%	8%	8%	8%	8%	
3	Return	4,000	8,000	7,200	5,600	4,000	2,400	800	$ 32,000
4	Income taxes	-	-	-	-	-	-	-	-
5	Depreciation	-	-	20,000	20,000	20,000	20,000	20,000	100,000
6	Revenue requirements	$ 4,000	$ 8,000	$ 27,200	$25,600	$24,000	$22,400	$20,800	$132,000
	CWIP not in Rate Base, AFUDC Capitalized								
7	Average rate base	$ -	$ -	$101,088	$78,624	$56,160	$33,696	$11,232	
8	Rate of return	-	-	8%	8%	8%	8%	8%	
9	Return	-	-	8,087	6,290	4,493	2,696	898	$ 22,464
10	Income taxes	-	-	-	-	-	-	-	-
11	Depreciation	-	-	22,464	22,464	22,464	22,464	22,464	112,320
12	Revenue requirements	$ -	$ -	$ 30,551	$28,754	$26,957	$25,160	$23,362	$134,784
	Unrecovered portion of total Revenue Requirements at End of Year								
13	CWIP in rate base	97%	91%	70%	51%	33%	16%	0%	
14	CWIP not in rate base, AFUDC capitalized	100	100	77	56	36	17	0	

Assumptions

1. Two-year construction period, $50,000 added at the start of each year.
2. Five-year operating life.
3. Straight-line depreciation used for book and tax purposes.
4. Construction financed 100% with debt costing 8%.
5. Interest cost during construction period capitalized for book and tax purposes.

Simplified Example For a
Single Utility, Single Plant
Situation - Short Life
<u>Property, 100% Debt (Cont'd)</u>

5. Lines 13 and 14 show that the percent of the total revenue requirements for capital and capital related costs (depreciation, return and income taxes) which remain to be collected at the end of each year is lower when CWIP is included in the rate base. The burden on future consumers is greater at the end of each year where AFUDC is capitalized than when CWIP is included in rate base. This greater obligation on future customers is one of the reasons why investors downgrade the securities of utilities which capitalize AFUDC.

Although the same rate of return has been used in the two alternatives just illustrated, it would be appropriate to have used a higher rate of return for the alternative of excluding CWIP from rate base for the reasons described by Duff and Phelps, Inc. Had a 9% interest rate been used when CWIP is excluded from rate base, aggregate revenue requirements would have increased to $139,532 from $134,784, while the revenue requirements when CWIP is excluded from rate base would remain at $132,000. It can be seen that the increased cost of capital arising from the risk that investors associate with excluding CWIP from rate base and AFUDC capitalization has a significant effect on revenue requirements.

Although this basic example assumed only debt financing, in actual practice equity would also be used to finance construction, and, as the Duff and Phelps report states, equity capital would also have a higher cost. The

Simplified Example For a Single Utility, Single Plant Situation - Short Life Property, 100% Debt (Cont'd)

increased revenue requirements over the life of the asset arising from a higher cost of capital when CWIP is excluded from rate base arise because:

1. Higher cost of equity.
2. Higher cost of debt.
3. Higher income taxes required on the additional revenues necessary to produce the higher equity return.
4. Higher depreciation because of the AFUDC capitalized during the construction period.

Simplified Example For a Single Utility, Single Plant Situation - Short Life Property Financed With Debt and Equity

Exhibits III-2 to III-4 describe the effects (again using a short seven-year combined construction and operating period) when the cost of equity is introduced into the rate-making formula. An important aspect of the rate-making formula is that to provide the equity holder with one dollar of income, a second dollar must be included in revenue requirements (at a 50% income tax rate) to pay the tax on the revenue so that one dollar flows to income applicable to common stock.

If the equity holder is entitled to one dollar of additional return, and if only one dollar is added to revenue requirements, taxable income would increase by one dollar. Income tax expense would be increased by 50¢, leaving only 50¢ (rather than one dollar) as the additional return on equity. As a general rule, changes in costs which are tax deductible are passed on to the consumer in the rate-making process on a dollar-for-dollar basis. For changes in costs which are not tax deductible such as income taxes themselves and cost of equity (net income) it is necessary to include in costs and consumer rates an amount that includes the related income tax effect.

Before describing these Exhibits in detail, it should be helpful to summarize the differences that this exhibit demonstrates. The effects over the seven-year construction and operating period are quite substantial, as shown on the following tabulation. The example here assumes the same rate of return whether CWIP is included or excluded from rate base. If the greater risk when CWIP is excluded from rate base were considered, the differences would be greater.

Simplified Example For a Single Utility, Single Plant Situation - Short Life Property Financed With Debt and Equity (Cont'd)

Explanation	Reference	Effects Assuming: CWIP Included in the Rate Base	Effects Assuming: Capitalization of AFUDC	Differences Due to Inclusion of CWIP in Rate Base: Amount	Differences Due to Inclusion of CWIP in Rate Base: Percent
Revenues to be collected from electric customers through rates	Exh. III-2, lines 2 & 9, col. 8	$164,000	$168,800	$ 4,800	2.86%
Depreciation expense reflecting the annual consumption of property during the period of use	Exh. III-2, lines 3 & 10, col. 8	100,000	115,600	15,600	13.49%
Income taxes	Exh. III-2, lines 4, 11 & 12 col. 8	22,400	24,080	1,680	6.98%
Cash funds from operations provided during the construction period	Exh. III-3, line 5 and line 16 cols. 1 + 2	$ 2,520	$ (9,480)	$12,000	-
		========	========	=======	

The above differences are among those which investors weigh heavily in judging the strengths and weaknesses of securities issued by companies with CWIP in rate base as compared with those of companies which capitalize AFUDC.

Exhibit III-2 has purposely been made relatively simple so that the economic effect on consumers of the alternative treatments of CWIP can more easily be grasped. Operating expenses other than income taxes and depreciation are excluded, since they should be the same under each of the two alternatives. For purposes of illustration, a company is assumed to have made expenditures of $50,000 as of the beginning of each of the two construction years. The plant, upon completion, has a productive life of five years. Further, it has been assumed that the plant is financed with 40% common equity and 60% debt. The fair return on (cost of) common equity is assumed to be 14% and the cost rates of debt issued is 8%, which yields an overall composite rate of return of 10.4%. The effective income tax rate is assumed to be 50%. A tax "timing difference" exists when CWIP is excluded from rate base and AFUDC is capitalized because for accounting purposes the capitalized interest is included in depreciation expense which is charged off over the life of the property, while such interest is deductible for tax purposes as it is paid. In this example, deferred taxes have been provided for this timing difference.[1] The depreciation life and method is assumed to be the same for financial and income tax reporting purposes.

The revenue requirement effects are shown on the income statement as presented on Exhibit III-2. The income statement on lines 1 through 7 reflect the inclusion of CWIP

---

1 A further discussion of tax-timing differences and deferred tax accounting is included in Section IV of this report.

SINGLE UTILITY, SINGLE PLANT SITUATION

STATEMENTS OF INCOME

ASSUMING INCLUSION OF CWIP IN THE RATE BASE

AND

ASSUMING CAPITALIZATION OF AFUDC

Line No.	Description	Construction Years 1 (Col. 1)	Construction Years 2 (Col. 2)	Operating Years 1 (Col. 3)	Operating Years 2 (Col. 4)	Operating Years 3 (Col. 5)	Operating Years 4 (Col. 6)	Operating Years 5 (Col. 7)	Total (Col. 8)
1	ASSUMING INCLUSION OF CWIP IN RATE BASE:								
2	Revenues	$ 8,000	$16,000	$ 34,400	$ 31,200	$ 28,000	$ 24,800	$ 21,600	$ 164,000
3	Depreciation	-	-	(20,000)	(20,000)	(20,000)	(20,000)	(20,000)	(100,000)
4	Income taxes - currently payable	(2,800)	(5,600)	(5,040)	(3,920)	(2,800)	(1,680)	(560)	(22,400)
5	Operating income	5,200	10,400	9,360	7,280	5,200	3,120	1,040	41,600
6	Interest expense	(2,400)	(4,800)	(4,320)	(3,360)	(2,400)	(1,440)	(480)	(19,200)
7	Net income applicable to common	$ 2,800	$ 5,600	$ 5,040	$ 3,920	$ 2,800	$ 1,680	$ 560	$ 22,400
8	ASSUMING CAPITALIZATION OF AFUDC:								
9	Revenues	$ -	$ -	$ 40,928	$ 37,344	$ 33,760	$ 30,176	$ 26,592	$ 168,800
10	Depreciation	-	-	(23,120)	(23,120)	(23,120)	(23,120)	(23,120)	(115,600)
11	Income taxes - currently payable	1,200	2,400	(8,045)	(6,790)	(5,536)	(4,282)	(3,027)	(24,080)
12	deferred	(1,200)	(2,400)	720	720	720	720	720	-
13	Operating income	-	-	10,483	8,154	5,824	3,494	1,165	29,120
14	AFUDC	5,200	10,400	-	-	-	-	-	15,600
15	Interest	(2,400)	(4,800)	(4,838)	(3,763)	(2,688)	(1,613)	(538)	(20,640)
16	Net income applicable to common	$ 2,800	$ 5,600	$ 5,645	$ 4,391	$ 3,136	$ 1,881	$ 627	$ 24,080
17	UNRECOVERED PORTION OF TOTAL REVENUE REQUIREMENTS AT END OF YEAR:								
18	CWIP in rate base	95%	85%	64%	45%	28%	13%	0%	
19	With AFUDC capitalized, CWIP not in rate base	100%	100%	76%	54%	34%	16%	0%	

Assumptions
1. Two year construction period, $50,000 added at the start of each year
2. Five year operating life
3. Straight-line depreciation used for book and tax purposes
4. Construction financed 60% with debt costing 8% and 40% with equity requiring a fair return of 14%
5. The income tax effect of the debt portion of the allowance for funds used during constructions was normalized

in rate base, and the income statement on lines 8 through 16 depict the exclusion of CWIP from the rate base and the capitalization of AFUDC. The non-cash AFUDC credit (line 14) is equivalent to the construction carrying costs and gives rise to higher plant cost. The higher plant costs produce higher annual depreciation expense ($23,120) as shown on line 10, compared to $20,000 annual depreciation expense (line 3) when CWIP is included in rate base.

Exhibit III-2 shows three of the five effects (explained on page III-16) of including construction work in progress in the rate base.

1. As shown on lines 2 and 9, when CWIP is included in rate base, the higher revenue requirements during the two-year construction period are offset by the lower revenue requirements during the five-year operating period.

2. As shown by the totals for lines 2 and 9, revenue requirements are lower in total when CWIP is included in rate base ($164,000 vs. $168,800).

5. As shown on lines 18 and 19, the percent of the total revenue requirements for capital costs (depreciation, return, and income taxes) to be recovered in the future is lower at the end of each year when CWIP is included in the rate base.

Exhibits III-3 set forth the cash flow under conditions of including and excluding CWIP from rate base. The dividend payout rate is 70%, which is typical for electric utilities.

SINGLE UTILITY, SINGLE PLANT SITUATION

STATEMENT OF CASH FLOW

Line No.	Description	Construction Years 1 (Col. 1)	Construction Years 2 (Col. 2)	Operating Years 1 (Col. 3)	Operating Years 2 (Col. 4)	Operating Years 3 (Col. 5)	Operating Years 4 (Col. 6)	Operating Years 5 (Col. 7)	Total (Col. 8)
	ASSUMING INCLUSION OF CWIP IN THE RATE BASE								
	From operations -								
1	Revenues	$ 8,000	$16,000	$ 34,400	$ 31,200	$ 28,000	$ 24,800	$ 21,600	$ 164,000
2	Income taxes currently payable	(2,800)	(5,600)	(5,040)	(3,920)	(2,800)	(1,680)	(560)	(22,400)
3	Interest expense	(2,400)	(4,800)	(4,320)	(3,360)	(2,400)	(1,440)	(480)	(19,200)
4	Dividends, at 70% payout ratio	(1,960)	(3,920)	(3,528)	(2,744)	(1,960)	(1,176)	(392)	(15,680)
5	Total from operations	840	1,680	21,512	21,176	20,840	20,504	20,168	106,720
6	From capital investment -								
7	Common	20,000	20,000	-	-	-	-	-	40,000
8	Debt	30,000	30,000	-	-	-	-	-	60,000
9	Recovery of capital	-	-	(20,000)	(20,000)	(20,000)	(20,000)	(20,000)	(100,000)
10	Total from investment	50,000	50,000	(20,000)	(20,000)	(20,000)	(20,000)	(20,000)	-
11	Total cash flow	$50,840	$51,680	$ 1,512	$ 1,176	$ 840	$ 504	$ 168	$ 106,720
	ASSUMING CAPITALIZATION OF AFUDC								
	From operations -								
12	Revenues	$ -	$ -	$ 40,928	$ 37,344	$ 33,760	$ 30,176	$ 26,592	$ 168,800
13	Income taxes currently payable	1,200	2,400	(8,045)	(6,790)	(5,536)	(4,282)	(3,027)	(24,080)
14	Interest expense	(2,400)	(4,800)	(4,838)	(3,703)	(2,688)	(1,613)	(538)	(20,580)
15	Dividends, at 70% payout ratio	(1,960)	(3,920)	(3,952)	(3,074)	(2,195)	(1,317)	(439)	(16,857)
16	Total from operations	(3,160)	(6,320)	24,093	23,777	23,341	22,964	22,588	107,283
	From capital investment -								
17	Common	21,600	23,200	-	-	-	-	-	44,800
18	Debt	32,400	34,800	-	-	-	-	-	67,200
19	Recovery of capital	-	-	(22,400)	(22,400)	(22,400)	(22,400)	(22,400)	(112,000)
20	Total from investment	54,000	58,000	(22,400)	(22,400)	(22,400)	(22,400)	(22,400)	-
21	Total cash flow	$50,840	$51,680	$ 1,693	$ 1,377	$ 941	$ 564	$ 188	$ 107,283

Assumptions

70% cash dividend payout ratio
30% paid-in common stock
See Exhibit III-2 for other assumptions

Simplified Example For a Single Utility, Single Plant Situation - Short Life Property Financed With Debt and Equity (Cont'd)

This Exhibit shows the other two of the five effects referred to earlier of including CWIP in the rate base.

3. During the two-year construction period, $2,520 (Exhibit III-3, line 5, columns 1 & 2) of internally generated cash is obtained when CWIP is included in the rate base. When CWIP is excluded from the rate base, there is a negative cash flow of $9,480 (Exhibit III-3. line 16, columns 1 and 2). What this reflects is that when CWIP is excluded from rate base there is an additional cash flow requirement to pay the interest and dividends on securities being used to finance construction.

4. When CWIP is included in the rate base, $100,000 of outside financing must be obtained (Exhibit III-3, line 10, columns 1 and 2). When CWIP is excluded from rate base, $112,000 of outside financing must be obtained (Exhibit III-3, line 20, columns 1 and 2).

Both of these factors would be important to investors in evaluating the quality of a utility investment and the resulting cost of money that the investors will require.

Exhibit III-4 sets forth the end-of-year balance sheets during the seven-year construction and operating period. The capitalization outstanding when CWIP is excluded from rate base (line 16) is greater in each year than the capitalization (line 8) when CWIP is included in rate base. Since the amount of productive property is the same in each case, the investor in a utility which excludes CWIP from

SINGLE UTILITY, SINGLE PLANT SITUATION

Exhibit III-4

BALANCE SHEETS

ASSUMING INCLUSION OF CWIP IN THE RATE BASE

AND

ASSUMING CAPITALIZATION OF AFUDC

Line No.	Description	Construction Years		Production Years				
		1 (Col. 1)	2 (Col. 2)	1 (Col. 3)	2 (Col. 4)	3 (Col. 5)	4 (Col. 6)	5 (Col. 7)
1	ASSUMING INCLUSION OF CWIP IN RATE BASE:							
2	Plant in service	$ -	$ -	$100,000	$100,000	$100,000	$100,000	$ 100,000
3	CWIP	50,000	100,000	-	-	-	-	-
4	Accumulated depreciation	-	-	(20,000)	(40,000)	(60,000)	(80,000)	(100,000)
5	Total assets	$50,000	$100,000	$ 80,000	$ 60,000	$ 40,000	$ 20,000	$ -
6	Common equity	$20,000	$ 40,000	$ 32,000	$ 24,000	$ 16,000	$ 8,000	$ -
7	Long-term debt	30,000	60,000	48,000	36,000	24,000	12,000	-
8	Total capitalization	$50,000	$100,000	$ 80,000	$ 60,000	$ 40,000	$ 20,000	$ -
9	ASSUMING CAPITALIZATION OF AFUDC:							
10	Plant in service	$ -	$ -	$115,600	$115,600	$115,600	$115,600	$ 115,600
11	CWIP	55,200	115,600	-	-	-	-	-
12	Accumulated depreciation	-	-	(23,120)	(46,240)	(69,360)	(92,480)	(115,600)
13	Total assets	$55,200	$115,600	$ 92,480	$ 69,360	$ 46,240	$ 23,120	$ -
14	Common equity	$21,600	$ 44,800	$ 35,840	$ 26,880	$ 17,920	$ 8,960	$ -
15	Long-term debt	32,400	67,200	53,760	40,320	26,880	13,440	-
16	Total capitalization	54,000	112,000	89,600	67,200	44,800	22,400	-
17	Accumulated deferred income taxes	1,200	3,600	2,880	2,160	1,440	720	-
18	Total capitalization and liabilities	$55,200	$115,600	$ 92,480	$ 69,360	$ 46,240	$ 23,120	$ -

Assumptions: See Exhibit III-2

Simplified Example For a Single Utility, Single Plant Situation - Short Life Property Financed With Debt and Equity (Cont'd)

rate base is faced with a greater investment per KW and is faced, as stated earlier, with the fact that if he is to be compensated, higher consumer rates must be allowed in future years. Each of these factors is perceived by investors as creating greater risk in the securities of companies which exclude CWIP from rate base. These lead to increases in the cost of money that the investor will require and increases in consumer rates.

Typical Life for a Single Utility, Single Addition to Plant

Exhibit III-5 sets forth the revenue requirements for inclusion CWIP in rate base and capitalization of AFUDC. The assumptions used on this exhibit are:

1. $1,000,000 construction project exclusive of AFUDC, expended over a five year period at $200,000 per year.

2. Plant goes into operation at the beginning of year 6, operating life is 25 years.

3. Income tax rate of 50%.

4. Rate of return at 8.9% based on the following cost of capital computation:

	Debt	Pref.	Common	Total
Capitalization Ratios	51.10%	13.20%	35.70%	100.00%
Cost of Capital	6.64	7.33	12.72	
Weighted Cost of Capital	3.39	.97	4.54	
Rate of Return				8.90

Typical Life for a Single
Utility, Single
Addition to Plant (Cont'd)

5. Rate of return at 9.6% based on the following cost of capital computation:

	Debt	Pref.	Common	Total
Capitalization Ratios	51.10%	13.20%	35.70%	100.00%
Cost of Capital	7.34	8.03	13.42	
Weighted Cost of Capital	3.75	1.06	4.79	
Rate of Return				9.60

6. The two rates of return were used as the basis for computing the allowance for funds used during construction.

7. Book and tax depreciation are the same.

8. The income tax effect of the debt interest is normalized.

9. Although it is technically correct to compound AFUDC, this exhibit ignores compounding in line with the usual historic practice. Compounding would, of course, further increase the revenue requirement under the AFUDC method. If compounding had been used, the present worth, using a 7.21% discount rate and 8.9% rate of return would have been approximately equivalent. Compounding of AFUDC will become a more common practice since the Federal Power Commission has provided for compounding in their recent Order No. 561 (effective January 1, 1977).

At the end of the 30 year life (5 years construction, 25 years operating), the revenue requirements shown on Exhibit III-5 are as follows:

	Revenue Requirements		
	Total	Discounted at 8.9%	Discounted at 7.21%, Net-of-Tax
CWIP in Rate Base, 8.9% Rate of Return	$3,161,500	$1,189,928	$1,389,405
AFUDC Capitalized and CWIP excluded from Rate Base			
9.6% Rate of Return	3,678,159	1,192,457	1,437,247
8.9% Rate of Return	3,475,569	1,123,357	1,353,878

The highest revenue requirements, both in total and discounted to present value at the beginning of Year 1, are when AFUDC is capitalized, using a 9.6% rate of return. The higher 9.6% rate of return when AFUDC is capitalized is used to reflect the fact that investors consider that the rate-making practice of capitalizing AFUDC produces earnings of lower quality. This .7% increase over the 8.9% assumed when CWIP is included in rate base is the upper limit of the cost differential estimated by Duff and Phelps, Inc. in their report in Section VI.

When CWIP is included in the rate base, annual revenue requirements are lower when the plant goes into service in Year 6 and continue to be lower through the life of the property. The negative revenue requirements during the first five years when AFUDC is capitalized results from the return being earned during those five years on the deferred tax reserve provided because of the current tax deductibility of debt interest.

The following table shows the cash requirements during each of the five year's in the construction period when CWIP is included in rate base in contrast to its exclusion and the capitalization of AFUDC. This table represents the external cash requirements to construct

$200,000 of additions each year and to service the debt and equity during the construction period.

NET CASH REQUIREMENTS FOR CONSTRUCTION

Year	CWIP in Rate Base	AFUDC Capitalized 9.6% Rate of Return	AFUDC Capitalized 8.9% Rate of Return
1	$198,638	$ 206,433	$ 205,965
2	195,914	219,588	218,140
3	193,190	233,323	230,803
4	190,466	247,637	243,954
5	187,742	262,531	257,594
	$965,950	$1,169,512	$1,156,456

With respect to CWIP in rate base, the $965,950 revenue requirements represents the $1,000,000 cost of the project less $34,050 of cash flow applicable to return on equity collected in rates that was retained in the business. The higher revenue requirements when AFUDC is capitalized represents the $1,000,000 cost of property plus the cash outflow for the cost of financing the project (debt interest and preferred and common stock dividends).

As can be seen, inclusion of CWIP in rate base produces cash requirements over the five-year construction period that are significantly lower than when AFUDC is capitalized, or only 83% of that when CWIP is not included in rate base (at a 9.6% rate of return). CWIP in rate base provides maximum assistance at the very time that construction creates heavy cash requirements.

During the five-year construction period, the assumptions used in Exhibit III-5 produces an annual interest coverage ratio of 4.25 in each of the five years where CWIP is included in rate base. If AFUDC earnings are not included in earnings coverage, no earnings for coverage are produced by this process and the interest expense on the debt issued to finance construction produces a negative coverage ratio, which would depress the coverage ratio produced by all the utility's other operating property.

At the most critical time when extensive financing is required, AFUDC earnings depress coverage ratios, making financing more difficult and expensive.

The following summarizes the revenue requirements for depreciation, return and related income taxes as shown on Exhibit III-5 during the five-year construction period and during the 25-year operating life.

Typical Life for a Single
Utility, Single
Addition to Plant (Cont'd)

	Revenue Requirements With		
		AFUDC Capitalized	
	CWIP in Rate Base	9.6% Rate of Return	8.9% Rate of Return
Periods -			
5-Year Construction	$ 360,250	$ (12,312)	$ (10,381)
25-Year Operating	2,801,250	3,690,471	3,485,950
	$3,161,500	$3,678,159	$3,475,569
Annual Average -			
Construction Period	$ 72,050	$ (2,462)	$ (2,076)
Operating Period	112,050	147,618	139,438

The analysis and summary on the preceding pages are a sound basis for drawing conclusions on the costs for depreciation, return and income taxes to be borne by consumers during the construction period or during the operating period. Operation, maintenance and fuel costs related to this facility will be charged as revenue requirements during the period of operation under each rate-making alternative.

The summary above clearly indicates that:

1. When CWIP is in rate base, consumers during the operation period will bear 89% of the total costs for depreciation, return and income taxes, while, when AFUDC is capitalized at a 9.6% rate, consumers during the operation period will bear over 100% of the total of such costs. CWIP in rate base provides some degree of sharing between consumers of the

SINGLE UTILITY, SINGLE ADDITION

ILLUSTRATION OF REVENUE REQUIREMENTS FOR DEPRECIATION, RETURN AND INCOME TAXES WHEN CONSTRUCTION WORK IN PROGRESS IS INCLUDED IN RATE BASE AND WHEN AN ALLOWANCE FOR FUNDS USED DURING CONSTRUCTION IS CAPITALIZED

(Single Property Addition)

Year		Construction Work In Progress In Rate Base 8.9% Rate of Return (Col. 1)	Allowance for Funds Used During Construction 9.6% Rate of Return (Col. 2)	Allowance for Funds Used During Construction 8.9% Rate of Return (Col. 3)
1		$ 14,410	$ (145)	$ (122)
2		43,230	(724)	(611)
3		72,050	(1,883)	(1,588)
4		100,870	(3,621)	(3,053)
5		129,690	(5,939)	(5,007)
	5 year total	360,250	(12,312)	(10,381)
6		181,218	236,101	221,065
7		175,454	228,728	214,263
8		169,690	221,354	207,460
9		163,926	213,981	200,658
10		158,162	206,607	193,856
11		152,398	199,233	187,054
12		146,634	191,860	180,251
13		140,870	184,486	173,449
14		135,106	177,113	166,647
15		129,342	169,739	159,845
16		123,578	162,366	153,042
17		117,814	154,992	146,240
18		112,050	147,619	139,438
19		106,286	140,245	132,636
20		100,522	132,872	125,834
21		94,758	125,498	119,031
22		88,994	118,125	112,229
23		83,230	110,751	105,427
24		77,466	103,378	98,625
25		71,702	96,004	91,822
26		65,938	88,631	85,020
27		60,174	81,257	78,218
28		54,410	73,884	71,416
29		48,646	66,510	64,613
30		42,882	59,137	57,811
	30 year total	$3,161,500	$3,678,159	$3,475,569
Present worth at beginning of year 1 of revenue requirements - Discounted at 8.9%		$1,189,928	$1,192,457	$1,123,357
Discounted at 7.21%, net-of-tax		$1,389,405	$1,437,247	$1,353,878

Assumptions

- $200,000 of construction expenditures made during each of the 5 years in the construction period
- Plant goes into service at the beginning of year 6, 25 year operating life
- Income tax rate of 50%
- The allowance for funds used during construction was capitalized at the applicable rate of return
- The income tax effect of the debt portion of the allowance for funds used during construction was normalized

Typical Life for a Single Utility, Single Addition to Plant (Cont'd)

construction and operation period, but the substantial majority of costs (89%) still falls to consumers in the period of operation.

2. Annual revenue requirements for depreciation, return and income taxes in each year of operation are, on the average, 32% greater when CWIP is excluded from rate base at a 9.6% AFUDC rate, thus putting a greater burden on consumers in the uncertain future and creating additional risks for investors.

Typical Life for a Single Utility, Growing Additions to Plant

Exhibit III-6 sets forth the revenue requirements under inclusion
inclusion of CWIP in rate base and capitalization of AFUDC. The assumptions are the same as those used on Exhibit III-5, except that additional projects are undertaken each year, the cost of which is 6% in excess of the previous year's project. Even though revenue requirements are initially lower with CWIP excluded from rate base, revenue requirements become higher in the 18th year and continue at a higher annual level thereafter. By the end of 30 years, revenue requirements on a cumulative basis are higher when AFUDC is capitalized than when CWIP is included in the rate base.

The net cash requirements for construction also demonstrate the benefits from the process of including CWIP in rate base, as shown on the following table.

	Net Cash Requirements For Construction	
Year	CWIP in Rate Base 8.9% Rate of Return	AFUDC Capitalized 9.6% Rate of Return
1	$ 198,638	$ 206,433
2	406,470	438,407
3	624,049	698,034
4	851,957	987,553
5	1,090,818	1,309,338
	$3,171,932	$3,639,765

Cash requirements are higher under AFUDC because of the cost of financing construction which are collected in rates when CWIP is included in rate base.

After five years, the cash requirements with CWIP in rate base are 87% of those when CWIP is not in rate base. Construction cash requirements are being reduced with CWIP in rate base at the very time that cash flow is most critical in connection with construction expenditures.

SINGLE UTILITY, GROWING ADDITIONS

ILLUSTRATION OF REVENUE REQUIREMENTS FOR DEPRECIATION, RETURN AND INCOME TAXES WHEN CONSTRUCTION WORK IN PROGRESS IS INCLUDED IN RATE BASE AND WHEN AN ALLOWANCE FOR FUNDS USED DURING CONSTRUCTION IS CAPITALIZED

(Continuing Additions - 6% Growth)

Year	Construction Work In Progress In Rate Base 8.9% Rate of Return	Allowance for Funds used During Construction 9.6% Rate of Return
1	$ 14,410	$ (145)
2	58,505	(878)
3	134,065	(2,813)
4	242,979	(6,602)
5	387,247	(12,935)
6	591,701	222,393
7	802,656	464,467
8	1,020,506	713,691
9	1,245,662	970,495
10	1,478,565	1,235,332
11	1,719,678	1,508,686
12	1,969,489	1,791,066
13	2,228,527	2,083,015
14	2,497,344	2,385,169
15	2,776,528	2,697,955
16	3,066,698	3,022,195
17	3,368,512	3,358,516
18	3,682,672*	3,707,643
19	4,009,919	4,070,343
20	4,351,038	4,447,431
21	4,706,856	4,839,781
22	5,078,256	5,248,292
23	5,466,190	5,673,940
24	5,871,629	6,177,721
25	6,295,629	6,580,780
26	6,739,304	7,064,252
27	7,203,836	7,569,355
28	7,690,476	8,097,393
29	8,200,551	8,649,739
30	8,735,467	9,227,850
30 Year Total	$101,634,895	$101,784,127

* Revenue requirements lower each year thereafter

Assumptions

- 5 year construction project undertaken each year, with 20% of expenditures made in each of the five years. First project is $1,000,000 ($200,000 per year; subsequent property additions are higher by a compounded growth rate of 6% each year
- Plant is put into service at the beginning of the 6th year after the 1st construction expenditures are made
- Income tax rate of 50%
- The allowance for funds used during construction was capitalized at the applicable rate of return
- The income tax effect of the debt portion of the allowance for funds used during construction was normalized

Typical Life for a Single Utility, Growing <u>Additions to Plant (Cont'd)</u>

During this five-year period, the assumptions used in Exhibit III-6 produce an annual earnings coverage ratio of 4.25 in each of the five years where CWIP is included in rate base. If AFUDC earnings are not included in earnings coverage, no earnings for coverage are produced by this process and the interest expense on the debt issued to finance construction reduces the interest coverage ratio for the utility. Thus, at the very time when extensive financing is required, AFUDC earnings depress the coverage ratios, making financing more difficult and expensive.

Examples Based on the Expenses and Projections of One Utility <u>Constructing a Single Plant</u>

Exhibits III-7 to III-12 are based on the construction expenditures of a medium-sized, investor owned electric company located in the Eastern United States.

In 1971, the Company began constructing a fossil fuel generating facility consisting of two 600 MW units which were expected to be placed in service by the end of 1979. Because of delays in securing licenses and in other matters, the construction schedule was extended with the completion of Unit No. 1 scheduled for completion in mid-1980 and Unit No. 2 scheduled for completion by the end of 1982.

The construction expenditures exclusive of AFUDC without and with the delay are summarized on Exhibit III-7.

The overall rate of return used in calculating the revenue requirements shown in this study is based on the capital structure and cost of capital used by the state regulatory commission to determine rate of return in the utility's most recent rate case:

	Capital Structure	Allowed Cost Rate	Weighted Rate of Return
Debt	51.1%	6.64%	3.39%
Preferred	13.2	7.33	.97
Common equity	35.7	12.72	4.54
	100.0%		8.90%

Because of the increased cost of capital when CWIP is excluded from rate base, the revenue requirements are computed at a rate of 9.4% as well as 8.9%. The increased cost of capital falls within the differential of .3% to .7% as set forth in the Duff and Phelps, Inc. report in Section VI.

The computations are based on an income tax rate of 48% and the allowance of investment tax credits of $30,944,000 before the delay and $47,700,000 after the delay in completion. The credits are amortized over the book life of the property.

The utility expects to depreciate the project after it goes into service at a 3.6% straight-line rate for book purposes and at an 8.5% double-declining balance rate for income tax purposes.

Exhibit III-8 is a summary of the revenue requirements for return, income taxes and depreciation based on the projected construction expenditures on Exhibit III-7 without considering the effect of the delay. Other expenses includable in cost of service, such as operation, maintenance and administrative expenses, have been excluded from the computation, since they would ordinarily have an equivalent effect on each revenue requirement computation. Column 2 of Exhibit III-8 sets forth the revenue requirements under conditions of including CWIP in rate base. Columns 3 and 4 set forth the revenue requirements under conditions of excluding CWIP from the rate base and AFUDC is capitalized at 8.9% and 9.4% rates of return. The interest component of AFUDC is deducted currently for income tax purposes and the tax effect of this timing difference is normalized.

Examples Based on the Expenses and Projections of One Utility Constructing a Single Plant (Cont'd)

The small negative figures during the construction period in columns 3 and 4 reflect the time value of the deferred income tax reserves being accumulated through the normalization process as to capitalized interest. These accumulated deferred taxes reduce rate base and the reduced revenue requirements are passed on to consumers.

The total revenue requirements over the construction and operating life of the project is $1,040,213,000 with CWIP included in rate base. This is lower than the total revenue requirements when CWIP is excluded from rate base, as shown in columns 3 and 4. The total capitalized costs of the project are shown at the bottom of the exhibit. The capitalized cost when CWIP is included in rate base is about 70% of the capitalized cost when CWIP is excluded from rate base and the carrying costs during the construction period are added to the capitalized cost of the project. As shown at the bottom of the exhibit, the total revenue requirements to be collected over the 37-year construction and operating period per dollar of capitalized expenditure is significantly higher when CWIP is excluded from the rate base and AFUDC is capitalized and added to the cost of plant.

Exhibit III-9 shows the net cash requirements during the construction period when CWIP is included in rate base and excluded from rate base. Cash requirements are those required for (1) construction expenditures (exclusive of AFUDC), and (2) payments for debt interest expense (net of taxes), preferred dividends and common stock dividends based on a 75% payment rate, less (3) amounts collected currently in rates when CWIP is included in the rate base.

The differences in cash requirements during the construction period--a time when cash flow is of critical importance--are substantial, showing that cash requirements, when CWIP is included in the rate base, are about 70% of those when CWIP is excluded from rate base.

Exhibit III-10 is a summary of the revenue requirements for depreciation, return and income taxes based on projected construction expenditures (Exhibit III-8) after considering the effect of the delay. The comments stated with respect to Exhibit III-8 also apply here.

Exhibit III-11 sets forth the cash requirements for construction after reflecting the projected delay.

Column 2 of Exhibit III-11 reflects cash requirements when CWIP is included in the rate base and columns 3 and 4 reflect cash requirements when CWIP is excluded from the rate base. The other comments stated with respect to Exhibit III-9 also apply here.

Examples Based on the Expenses
and Projections of One Utility
Construction a Single Plant (Cont'd)

Exhibit III-12 has been prepared to compare the estimated effects of the delay in the construction schedule. The exhibit is designed to compare the effects of the delay when CWIP is included in the rate base and when CWIP is excluded from the rate base.

The accumulated revenue requirements over the life of the facility are shown under the alternative CWIP treatments both without (line 1) and with (line 2) the construction delay. The accumulated revenue requirements per dollar of direct expenditures without and with the construction delay are shown on lines 5 and 6, respectively.

The most significant factor is the increase in plant balances as a result of the delay. This is reflected in an increase in capitalized costs of about 54% as shown on lines 3 and 4. Because of the delay, consumers are faced with significantly higher revenue requirements with no increase in productive capacity. Capitalizing AFUDC has the effect of compounding this increased cost situation.

SINGLE COMPANY-SINGLE PROJECT

CONSTRUCTION EXPENDITURES EXCLUSIVE OF AFUDC
(In Thousands)

		Without Delays			With Delays		
Line No.	Year (Col. 1)	Unit No. 1 (Col. 2)	Unit No. 2 (Col. 3)	Total (Col. 4)	Unit No. 1 (Col. 5)	Unit No. 2 (Col. 6)	Total (Col. 7
1	1971	$ 35	$ -	$ 35	$ 30	$ -	$ 3
2	1972	914	-	914	920	-	92
3	1973	5,533	-	5,533	5,513	19	5,53
4	1974	27,024	10,596	37,620	20,085	3,000	23,08
5	1975	79,773	25,424	105,197	16,588	1,893	18,48
6	1976	37,980	73,315	111,295	29,464	10,088	39,55
7	1977	14,120	32,817	46,937	62,700	12,500	75,20
8	1978	8,698	15,380	24,078	82,300	16,000	98,30
9	1979	1,000	1,391	2,391	28,000	92,500	120,50
10	1980	500	500	1,000	15,000	55,800	70,80
11	1981	-	-	-	1,000	41,000	42,00
12	1982	-	-	-	-	20,000	20,00
13	1983	-	-	-	-	2,000	2,00
14	Total	$175,577	$159,423	$335,000	$261,600	$254,800	$516,40

SINGLE COMPANY-SINGLE PROJECT

REVENUE REQUIREMENTS FOR DEPRECIATION, RETURN AND INCOME TAXES

WITHOUT DELAY
(In Thousands)

Year (Col. 1)	CWIP Included in Rate Base: 8.9% Rate of Return (Col. 2)	Capitalization of AFUDC: 8.90% Rate of Return (Col. 3)	Capitalization of AFUDC: 9.40% Rate of Ret (Col. 4)
1971	$ 4	$ -	$ -
1972	134	-	-
1973	917	-	-
1974	6,241	-	-
1975	21,160	(14)	(33)
1976	37,039	(194)	(254)
1977	43,832	(682)	(817)
1978	47,303	(1,440)	(1,680)
1979	47,675	(2,370)	(2,736)
1980	56,404	81,614	86,837
1981	53,690	78,438	83,442
1982	51,096	75,226	80,008
1983	48,645	72,156	76,725
1984	46,325	69,216	73,579
1985	44,123	66,396	70,559
1986	42,031	63,684	67,655
1987	40,038	61,073	64,855
1988	38,137	58,552	62,152
1989	36,319	56,116	59,538
1990	34,578	53,755	57,003
1991	32,907	51,465	54,543
1992	31,292	49,231	52,143
1993	29,700	47,020	49,766
1994	28,109	44,809	47,390
1995	26,517	42,599	45,013
1996	24,925	40,388	42,637
1997	23,333	38,177	40,261
1998	21,741	35,966	37,884
1999	20,149	33,755	35,508
2000	18,558	31,544	33,132
2001	16,966	29,334	30,755
2002	15,374	27,123	28,379
2003	13,951	25,080	26,180
2004	12,864	23,375	24,337
2005	11,946	21,839	22,672
2006	11,028	20,300	21,007
2007	5,162	11,598	12,062
Total revenue requirements	$1,040,213	$1,305,129	$1,380,502
Capitalized construction cost	$ 335,000	$ 485,187	$ 495,080
Total revenue requirements per dollar of capitalized construction cost, except AFUDC ($335 million)	$3.11	$3.90	$4.12

SINGLE COMPANY-SINGLE PROJECT

CASH REQUIREMENTS DURING THE CONSTRUCTION PERIOD

WITHOUT DELAY
(In Thousands)

Year (Col. 1)	CWIP Included In Rate Base 8.9% Rate of Return (Col. 2)	Capitalization of AFUDC 8.9% Rate of Return (Col. 3)	Capitalization of AFUDC 9.40% Rate of Return (Col. 4)
1971	$ 34	$ 38	$ 38
1972	899	971	974
1973	5,440	5,926	5,950
1974	36,992	40,303	40,457
1975	103,065	114,460	115,005
1976	107,544	128,241	129,284
1977	42,478	68,569	69,999
1978	19,258	49,517	51,325
1979	(2,471)	30,717	32,887
Total	$313,239	$438,742	$445,919

SINGLE COMPANY-SINGLE PROJECT

REVENUE REQUIREMENTS FOR DEPRECIATION, RETURN AND INCOME TAXES

WITH DELAY
(In Thousands)

Year (Col. 1)	CWIP Included in Rate Base: 8.9% Rate of Return (Col. 2)	CWIP Excluded from Rate Base: 8.90% Rate of Return (Col. 3)	CWIP Excluded from Rate Base: 9.40% Rate of Retur (Col. 4)
1971	$ 4	$ 0	$ 0
1972	134	0	0
1973	916	0	0
1974	4,184	(2)	(6)
1975	6,827	(36)	(47)
1976	12,439	(123)	(149)
1977	23,117	(275)	(331)
1978	37,107	(572)	(680)
1979	54,388	(1,090)	(1,285)
1980	64,576	(1,931)	(2,256)
1981	77,325	61,250	65,001
1982	78,072	58,090	61,586
1983	82,816	115,612	122,764
1984	78,815	110,790	117,616
1985	75,030	106,184	112,699
1986	71,448	101,780	107,993
1987	68,049	97,560	103,483
1988	64,820	93,508	99,149
1989	61,744	89,611	94,978
1990	58,809	85,854	90,957
1991	56,004	82,228	87,073
1992	53,317	78,719	83,312
1993	50,732	75,313	79,659
1994	48,218	71,977	76,082
1995	45,747	68,684	72,550
1996	43,294	65,409	69,037
1997	40,840	62,135	65,523
1998	38,387	58,860	62,010
1999	35,934	55,584	58,496
2000	33,480	52,309	54,983
2001	31,027	49,034	51,469
2002	28,573	45,759	47,956
2003	26,119	42,484	44,442
2004	23,797	39,341	41,067
2005	21,738	36,459	37,969
2006	19,939	33,838	35,146
2007	18,395	31,473	32,593
2008	13,094	23,782	24,629
2009	8,295	14,078	14,523
2010	3,802	7,727	8,445
Total revenue requirements	$1,561,352	$1,911,403	$2,018,436
Capitalized construction cost	$ 516,400	$ 715,728	$ 728,819
Total revenue requirements per dollar of capitalized construction cost, except AFUDC ($516.4 million)	$3.02	$3.70	$3.91

SINGLE COMPANY-SINGLE PROJECT

CASH REQUIREMENTS DURING CONSTRUCTION PERIOD WITH DELAY
(In Thousands)

Year (Col. 1)	CWIP Included In Rate Base 8.9% Rate of Return (Col. 2)	Capitalization of AFUDC 8.9% Rate of Return (Col. 3)	Capitalization of AFUDC 9.40% Rate of Return (Col. 4)
1971	$ 28	$ 32	$ 32
1972	905	977	980
1973	5,438	5,925	5,947
1974	22,663	24,900	25,005
1975	17,786	21,602	21,795
1976	38,293	45,383	45,749
1977	72,861	86,162	86,864
1978	94,542	116,340	117,523
1979	115,784	147,716	149,548
1980	64,232	105,215	107,663
1981	37,616	58,006	59,173
1982	16,316	40,050	41,519
Total	$486,464	$652,308	$661,798

SINGLE COMPANY-SINGLE PROJECT

COMPARISON OF ESTIMATED EFFECTS OF CONSTRUCTION DELAY
(In Thousands)

Line No.	Description	CWIP Included in Rate Base: 8.9% Rate of Return (Col. 1)	Capitalization of AFUDC: 8.90% Rate of Return (Col. 2)	Capitalization of AFUDC: 9.40% Rate of Return (Col. 3)
	Total revenue requirements:			
1	Without delay (Exhibit III-8)	$1,040,213	$1,305,129	$1,380,502
2	With delay (Exhibit III-10)	1,561,352	1,911,403	2,018,436
	Construction expenditures (except AFUDC):			
3	Without delay (Exhibit III-7)	335,000	335,000	335,000
4	With delay (Exhibit III-7)	516,400	516,400	516,400
	Total revenue requirements per dollar of capitalized construction cost (except AFUDC):			
5	Without delay (Exhibit III-8)	$3.11	$3.90	$4.12
6	With delay (Exhibit III-10)	3.02	3.70	3.91
	AFUDC capitalized:			
7	Without delay	-	150,187	160,080
8	With delay	-	199,328	212,419
	Present value of total revenue requirements, discounted at 8.9%:			
9	Without delay	308,511	289,274	306,689
10	With delay	382,494	360,726	381,794
	Present value of total revenue requirements, discounted at 7.27% net of tax:			
11	Without delay	372,309	369,141	391,268
12	With delay	477,207	472,785	500,935

National Effect on
Revenue Requirements

In this section of the study we have computed estimated revenue requirements and cash flows arising from the inclusion of CWIP in the rate base compared with the exclusion of CWIP from the rate base and the capitalization of AFUDC by investor owned electric utilities.

Exhibit III-13 sets forth the estimated annual revenue requirements for return, income taxes and depreciation for the period 1961 through 1986 assuming since 1961 (1) the inclusion of CWIP in rate base and (2) the exclusion of CWIP from the rate base and the capitalization of AFUDC. The rate of return used when CWIP is excluded from the rate base is .7% higher than the "basic" rate in column 2, which is the rate used when CWIP is included in the rate base. Other expenses includable in cost of service, such as operating and maintenance expenses, have been excluded from these computations since they would ordinarily have the same effect on revenue requirements whether or not CWIP is included in the rate base.

"Basic" rates of return used in the computation (column 2) represent the actual earned composite rate of return on estimated rate base as derived from the Federal Power Commission, "Statistics of Privately Owned Electric Utilities in the United States". For purposes of simplification, an average derived earned rate of return was used for

1961 through 1970, and the annual derived rate of return was used in each year from 1971 through 1975. These rates of return are not intended to represent necessarily the proper return but are only used for purposes of illustration.

Annual construction expenditures exclusive of AFUDC shown in column 3, for the years 1961 through 1975 were derived from information reported by the FPC. The CWIP balance, including AFUDC, as of the end of each year is shown in column 4, and for the years 1961 through 1975 are those reported by the FPC.

Columns 5 and 6 set forth the estimated revenue requirements with CWIP in rate base (column 5) and CWIP excluded from rate base with AFUDC capitalized (Column 6). The rate of return used in computing the revenue requirements in column 5 is the basic rate of return (column 2) and in column 6 is the basic rate of return plus .7%.

The estimated rate base used in computing revenue requirements in column 5 for the period 1961 to 1975 consisted of the average plant in service less average accumulated depreciation, as reported by the FPC, plus the average CWIP investment (except for the estimated AFUDC included therein). The rate base as used in the revenue requirement computation in column 6 for the period 1961 through 1975 consisted of the average plant in service less average accumulated depreciation as reported by the FPC and less the assumed average accumulated normalization reserve for the income tax effect of debt interest capitalized. The estimated rate bases for the period 1976 through 1986 were calculated on a consistent basis using gross additions as described below.

It was assumed that the Federal income tax rate was 48% in each year, and that investment tax credits generated were amortized as a reduction in cost of service over the service life of the property. Estimated capital additions for the period 1976 to 1981 were taken from Edison Electric Institute reports and a 6% growth rate was projected for the period 1982 to 1986.

There are only minor differences in the estimated revenue requirements in columns 5 and 6 until about 1969. The assumed differential in rate of return about offsets the effect of the relatively insignificant CWIP balances in the 1960's. Concurrently, with substantial increases in the CWIP balance, the revenue requirements (column 5) become larger when CWIP is included in the rate base. By 1979 the differential declines, and starting in 1986 revenue requirements are lower with CWIP in the rate base (column 5) than when AFUDC is capitalized (column 6) despite continued substantial construction expenditures. These revenue requirements are shown graphically on Exhibit, III-14.

National Effect on
Revenue Requirements (Cont'd)

Columns 7 and 8 set forth the estimated percentage of construction expenditures (column 3) that are covered by internally generated cash when CWIP is included in the rate base compared with when AFUDC is capitalized. Internally generated funds are assumed to represent retained earnings, depreciation, deferred taxes attributed to the debt portion of AFUDC and net investment tax credits. The percentage of internally generated cash is higher in every year when CWIP is included in the rate base. In fact, internally generated funds would have furnished approximately $167.5 billion, or 37% of the direct construction requirements during this period.

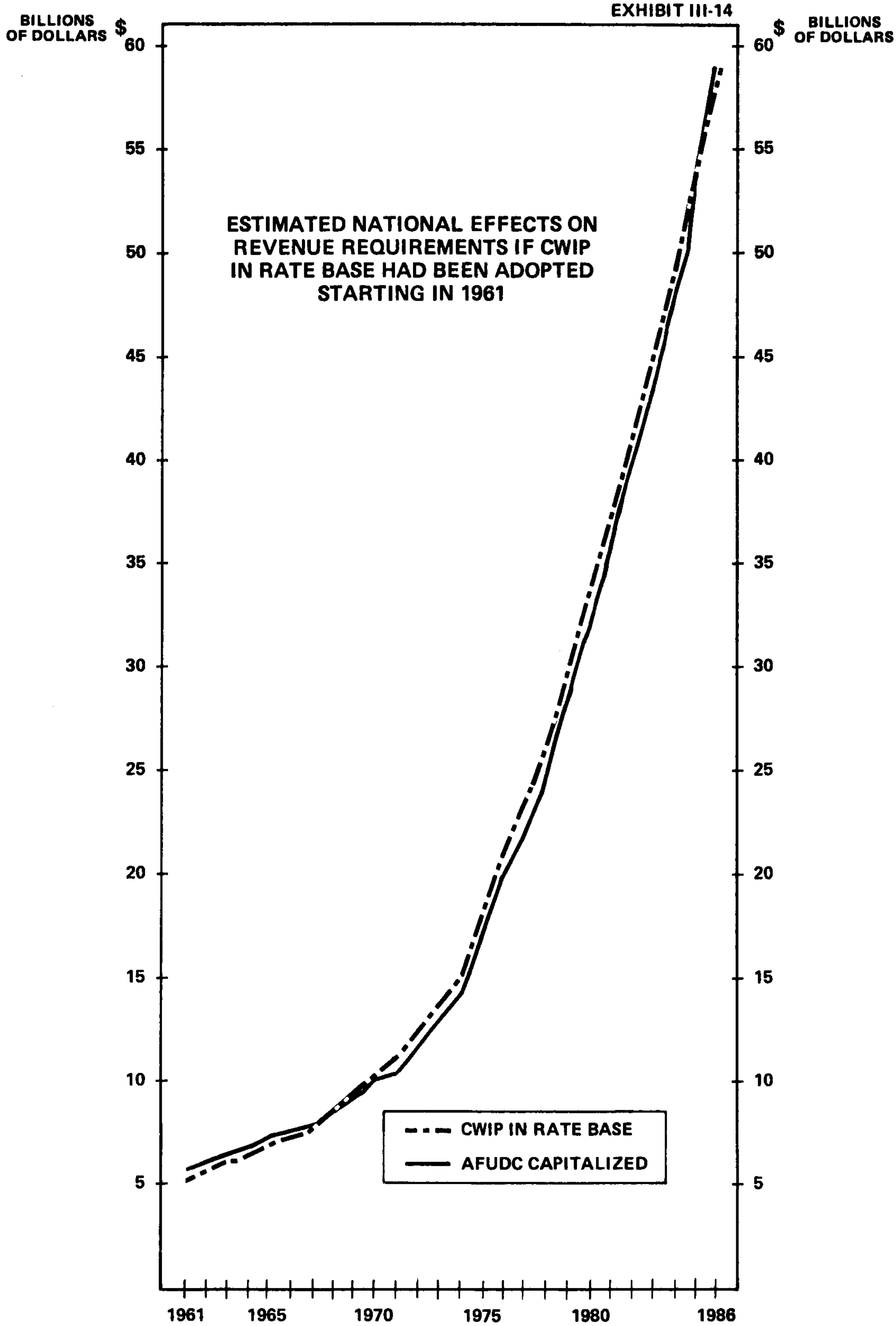
Of the approximate $33.2 billion estimated increase in internally generated funds arising from the inclusion of CWIP in the rate base during the period from 1961 through 1986, more than $123.5 billion of such funds arose in the period from 1976 through 1986, the period in which there is a critical need for increased cash flows. This study is based on the presumption that all construction expenditures after 1961 would be subject to rate base treatment for purposes of comparison. Were there an extensive movement to inclusion of CWIP in the rate base in 1977, for example, the revenue requirement pattern would be different, and, depending on the assumptions used, the crossover point could be postponed further into the future.

INVESTOR OWNED ELECTRIC UTILITIES ESTIMATED NATIONAL EFFECT ON REVENUE REQUIREMENTS

IF CWIP IN RATE BASE HAD BEEN ADOPTED STARTING IN 1961
(In Millions)

				Revenue Requirements		Percent of Construction Expenditures Generated Internally	
				CWIP in Rate Base	AFUDC Capitalized		
Year (Col. 1)	Basic Rate of Return (Col. 2)	Construction Expenditures Excluding AFUDC (Col. 3)	CWIP Balance Including AFUDC (Col. 4)	Rate of Return at Basic Rate of Return (Col. 5)	Rate of return at Basic Rate of Return Plus .7% (Col. 6)	CWIP in Rate Base (Col. 7)	AFUDC Capitalized (Col. 8)
1961	7.35%	$ 2,924	$ 2,088	$ 5,648	$ 5,817	57%	56%
1962	7.35	2,897	1,873	5,942	6,156	63	62
1963	7.35	3,087	1,960	6,243	6,497	62	61
1964	7.35	3,133	2,146	6,525	6,794	70	70
1965	7.35	3,749	2,436	6,845	7,116	58	57
1966	7.35	4,686	3,569	7,246	7,470	50	49
1967	7.35	5,869	4,418	7,786	7,940	43	41
1968	7.35	6,755	5,896	8,452	8,537	39	37
1969	7.35	7,824	7,731	9,242	9,215	37	34
1970	7.35	9,633	10,213	10,213	10,037	32	28
1971	7.39	10,793	13,531	10,785	10,447	30	25
1972	7.61	12,017	16,623	12,314	11,760	31	25
1973	7.60	13,515	20,246	13,593	12,924	31	24
1974	7.60	14,195	22,846	14,698	13,951	30	22
1975	8.20	13,666	26,319	16,588	16,529	39	31
1976	8.90	18,000	29,885	21,533	20,106	35	26
1977	8.90	20,000	33,646	24,045	22,604	36	26
1978	8.90	22,000	37,541	26,816	25,398	36	27
1979	8.90	24,000	41,527	29,843	28,493	37	27
1980	8.90	26,000	45,575	33,115	31,881	38	28
1981	8.90	29,000	50,324	36,703	35,594	37	29
1982	8.90	30,740	54,724	40,579	39,633	39	30
1983	8.90	32,584	58,954	44,649	43,968	40	32
1984	8.90	34,540	63,141	48,923	48,575	42	33
1985	8.90	36,610	67,373	53,495	53,445	43	35
1986	8.90	38,807	71,720	58,088	58,576	45	36

EXHIBIT III-14



National Effect on
Revenue Requirements (Cont'd)

It is important to note that the greater the rate of growth in construction, the more likely it is that a crossover point in a revenue requirement comparison will be postponed. However, it is the rapid rate of growth that makes it all the more difficult to finance construction, which could necessitate some revenue requirement adjustment, whether by inclusion of CWIP in rate base or by other methods such as a higher rate of return.

Current Regulatory
Treatment of CWIP

Until recently, the predominant practice has been to exclude CWIP from the rate base and to allow the utility to add AFUDC to plant on which return and depreciation would be allowed in succeeding rate cases. A few utilities have either never, or only to a limited degree, capitalized AFUDC, usually on the basis of prior commission action. Until the late 1960's, the issue was not considered significant because of the relatively small amount of AFUDC included in income and because from the mid 1950's until the late 1960's, electric rate proceedings involved more decreases than increases in rates.

Current Regulatory
Treatment of CWIP (Cont'd)

During the past few years, the issue of CWIP has become an increasingly important rate case issue. Several commissions are recognizing that allowing at least a portion of CWIP in the rate base may be one practical and important step that can be taken to assist utilities in financing their construction programs. In these cases, a portion of CWIP is included in rate base and AFUDC is capitalized on the CWIP excluded from rate base. The listing which follows sets forth commissions which in recent cases have allowed all or part of CWIP in the rate base. Some commissions have allowed rate base treatment of some CWIP to the utility based on its financing and construction program and then have allowed another utility in different circumstances a different portion (or no) CWIP in the rate base. The list is intended as a representative list and is not necessarily intended to be all inclusive.

JURISDICTIONS ALLOWING CWIP IN RATE BASE

Jurisdiction	Recent Citations
COMMISSIONS WHICH HAVE ALLOWED ALL CWIP IN RATE BASE:	
District of Columbia	Re Potomac Electric Power Company 11 PUR 4th 215 (November 12, 1975)
Kentucky	Louisville Gas and Electric Company
Maine	Re Bangor Hydro-Electric Company 6 PUR 4th 48 (July 10, 1974)
Maryland	Re Potomac Electric Power Company 1 PUR 4th 238 (October 26, 1973)
Texas	Central Power and Light Company Docket No. 91 (January 1977)
Virginia	Re Potomac Electric Power Company Docket #19686 (July 6, 1976)
Wisconsin	Re Madison Gas and Electric Company 10 PUR 4th 185 (June 16, 1975)
COMMISSIONS WHICH HAVE ALLOWED PART OF CWIP IN RATE BASE:	
Florida	Re Florida Power & Light Company Order No. 6591, Docket No. 74509-EU(CR)
Illinois	Re Central Illinois Light Company Illinois ICC Order Re Docket 58925 & 59179

Jurisdiction	Recent Citations
COMMISSIONS WHICH HAVE ALLOWED PART OF CWIP IN RATE BASE (Cont'd):	
Indiana	Re Northern Indiana Public Service Co. Cause No. 33920 (October 1975)
Iowa	Re Interstate Power Company Docket No. U-496 (October 27, 1975)
New Jersey	Public Service Gas and Electric Docket No. 744-335 (October 31, 1975)
New Mexico	Re Public Service Company of New Mexico 7 PUR 4th 166 (October 10, 1974)
New York	Re Long Island Lighting Co. 9 PUR 4th 21 (January 9, 1975)
Oklahoma	Re Oklahoma Gas and Electric Company Cause No. 25567, Order No. 121513
Oregon	Re Portland General Electric Company UF 3157, Order No.75-832
Pennsylvania	Pennsylvania Public Utilities Commission v. Duquesne Light Company 5 PUR 4th 202 (July 30, 1974)
Utah	Re Utah Power and Light Co. 14 PUR 4th 161 (March 4, 1976)
Vermont	Re Central Vermont Public Service Corporation 94 PUR 3rd 34 (March 28, 1972)
Federal Power Commission	Order No. 555 (November 8, 1976)
Federal Communications Commission	Order No. 77-150 (44367), (March 1, 1977)

Note: The above listing excludes those commissions which include CWIP in rate base and also include AFUDC as a reduction of revenue requirements, since this procedure has the effect of excluding CWIP from rate base.

DISCUSSION OF ARGUMENTS FOR AND AGAINST THE INCLUSION OF CWIP IN RATE BASE

The following discussion of some of the reasons given for including or excluding CWIP from rate base treatment is grouped under the issues requested by the Federal Energy Administration.

Whether Inclusion of CWIP in Rate Base Would Force Current Consumers to Pay Part of the Cost of Power That Will Benefit Only Future Consumers

The issue is whether the benefits of CWIP to the current consumer merit charging the current consumer for the cost of financing construction work in progress, or does including CWIP in the rate base involve charging a current consumer for costs that apply solely to future consumers?

Opponents of including CWIP in the rate base argue that:

1. The current consumer is receiving no service from the property in CWIP and with inclusion of CWIP in the rate base, is in effect, forced to subsidize future consumers who receive the service. Hence CWIP should not be included in the rate base.

2. The capitalization of AFUDC during the construction period will compensate investors currently

while not charging current consumers for costs related to plant designed to serve future consumers.

3. Capitalizing AFUDC provides for a proper matching of revenues and expenses because the consumer only pays for the costs which have been consumed in providing him with electric service.

4. The cost of financing construction costs is just as much a part of a plant's construction costs as are the labor, material and contract costs that go into constructing the plant. These latter costs are not charged to the consumer until the plant is in operation, and there is no reason why the financing costs should be treated in a different manner.

Proponents of the inclusion of CWIP in the rate base contend that:

1. The current consumer does receive a benefit from CWIP and therefore it is proper to charge him for some of the cost incurred in achieving this benefit. An on-going construction program provides assurance that his growing future electric energy needs--in

his home, in his business, and in his community--will be met and that his present standard of living will not decline due to a lack of electric energy.

2. A significant portion of plant additions are to meet the expected future needs of the present consumers. The kilowatt-hour consumption per capita has grown from approximately 3,800 KWH to approximately 8,100 KWH from 1960 through 1975 and it is projected to be approximately 13,000 KWH in 1985. Therefore, a large portion of present and future capital expenditures are required merely to provide for that estimated future per capita demand by present consumers.

3. A portion of ongoing construction expenditures relates to the replacement of existing plant, which replacement cost ordinarily substantially exceeds the original cost of the existing plant. This construction produces a clear benefit to present consumers since it merely replaces facilities that are currently being used in rendering electric service to present consumers. It is similar to the inclusion of materials and supplies

or cash working capital in the rate base since a certain amount of CWIP is always required for the normal replacement of property.

4. A significant portion of construction expenditures by electric utilities is for purposes of reducing air or water pollution, for purposes of converting from oil or gas to coal, or for purposes of improving or preserving the environment. The magnitude of these expenditures for 1975 are shown on Illustration 9 in Section I as approximately $1,560 million, or about 10% of the total 1975 annual expenditures. Expenditures of this nature have been demanded by current consumers through their elected government representatives. These expenditures are intended to benefit society as a whole including present and future utility consumers. Charging the carrying costs of financing such expenditures while under construction to present consumers and charging all of the depreciation, other fixed costs and all operating costs on such facilities when they are in operation to future consumers seems to be a reasonable sharing of such costs.

Whether Inclusion of CWIP in Rate Base Would Force Current Consumers to Pay Part of the Cost of Power That Will Benefit Only Future Consumers (Cont'd)

5. Of the rate-making alternatives available to increase cash flow and improve coverage ratios, including CWIP in the rate base should produce over a period of years the lowest annual revenue requirements to consumers.

6. Utility rate-making, which is based on historic original cost (as most rate-making is), does not produce prices which reflect the full economic cost of providing service. Additional revenues resulting from including CWIP in the rate base should not cause the price of electricity to exceed its economic cost.

In summary, the benefits of electric utility construction programs accrue to both current and future consumers. Since the future consumer pays for the direct cost of the construction (as depreciation), the cost of operating the facilities and the financing costs during the period of operations, it would not seem unreasonable that the current consumer share the cost of financing the construction during the construction period. As pointed out earlier in this section, the financing costs during the construction period are a small portion of the total capital and operating costs to be incurred over the combined construction and operating life of the property.

The above discussion principally deals with the issue of the benefits to the current consumer from c construction work in progress, and describes why the current consumer does benefit from such construction expenditures and reasonably should pay some costs related to such expenditures. However, the most critical question, which is related to this issue, is whether the future electrical energy needs (which as stated above are in large part to supply future demands of current consumers) can be met by the traditional approach of excluding construction work in progress from the rate base and capitalizing AFUDC. The financial condition of many utilities, even though somewhat improved during the past two years, may still preclude them from financing the construction to meet the future demands of consumers at all without moving toward the inclusion of at least some CWIP in rate base. The effects on the national economy of being unable to finance the needed construction would be multi-faceted.

1. The effect on the standard of living of all citizens would be substantial, particularly those in the lower income brackets who would be forced to pay higher costs for scarce energy.

Whether Inclusion of CWIP in Rate Base Would Force Current Consumers to Pay Part of the Cost of Power That Will Benefit Only Future Consumers (Cont'd)

3. Lack of an adequate increase in generating facilities could have a negative effect on productivity within the electric industry itself and in all industry.

4. Inadequate financing would force utilities to choose facilities with the lowest capital cost which often means choosing facilities with the highest operating costs and those which use more scarce energy.

Whether, by Inclusion of CWIP in Rate Base, There Would be a Tendency to Begin Construction of Plants Prematurely or a Tendency to Delay Construction Completion

Opponents of inclusion of CWIP contend that by including CWIP in rate base, which will allow current collection of revenues to cover the financing costs of CWIP, utility managements will have an incentive to undertake construction prematurely, at higher levels or over longer time spans, merely for purposes of increasing the CWIP that is included in rate base. It is argued that, since the utility is allowed to earn a return equal to or greater than the cost of capital, utility management has an incentive to undertake unneeded construction as a means of increasing its rates and its earnings.

Whether, by Inclusion of CWIP in Rate Base, There Would be a Tendency to Begin Construction of Plants Prematurely or a Tendency to Delay Construction Completion (Cont'd)

However, it seems unlikely under current conditions that management would (if ever) undertake unnecessary construction whether AFUDC or CWIP accounting is used given the following:

a. the difficulty and cost of obtaining debt financing in view of declining coverage ratios and lowered bond ratings.

b. the high current cost of debt exceeding embedded cost of debt, so that every new debt issue raises the utility's embedded cost.

c. the difficulty of obtaining equity financing when market value often is lower than book value and equity returns earned are lower than those allowed.

d. the regulatory lag universally faced by utilities with the result that the allowed rate of return is rarely earned.

e. the increasing incremental unit cost of new facilities so that the addition of new facilities increases the impact of attrition (i.e., erosion of earned return due to rising costs of service relative to the costs reflected in rates based upon the historical test period) on a utility's earnings.

The contention is that plant construction may be undertaken prematurely or construction periods extended when CWIP is included in rate base because the utility has more assured earnings. The validity of this contention requires an analysis of the AFUDC process compared to the inclusion of CWIP in rate base.

Whether, by Inclusion of CWIP in Rate Base, There Would be a Tendency to Begin Construction of Plants Prematurely or a Tendency to Delay Construction Completion (Cont'd)

Under the AFUDC process, as the investment in CWIP grows, earnings are increased by bookkeeping entries which record AFUDC. Thus, reported earnings are increased through the process of bookkeeping earnings and the equity return is maintained. AFUDC is not usually subject to the effects of inflation in operating expenses, short-term variations in consumer demand, operating changes, the weather or regulatory lag and is often termed as "an assured form of earnings." However, many investors consider AFUDC to have a negative effect on quality of earnings and this can lead to investors discounting AFUDC earnings to some degree. The extent to which this discounting affects the capability to finance and cost of financing is uncertain.

When plant is placed in service, its AFUDC earnings cease and charges for depreciation and operating expenses begin. Sufficient increased revenues (either through a rate increase or from increased sales, if this is possible) must then be obtained to cover the increased depreciation and operating costs and the cost of servicing the capital invested in the plant. Such increases are not easy to come by under today's conditions, involving at best regulatory delays.

Whether, by Inclusion of CWIP in Rate Base, There Would be a Tendency to Begin Construction of Plants Prematurely or a Tendency to Delay Construction Completion (Cont'd)

There is ordinarily a lag between the time that a utility applies for higher rates and when the regulatory commission allows the rate increase. This lag period may be a few months, but more often it is closer to a year or more. When CWIP is included in rate base, the effect of increased CWIP financing costs on earnings of the utility can only be offset by rate increases or placing the plant in service in order to generate additional operating revenues. During this lag period, management's best means of offsetting increased costs is by developing additional revenues or reducing costs. This would create a powerful management incentive for the completion of utility construction in the shortest possible time span when CWIP is in the rate base.

In view of this, the inclusion of CWIP in rate base should not increase (and may reduce) the incentives for beginning the construction of a plant prematurely or for extending the time span of construction.

Whether, by Inclusion of CWIP in Rate Base, There Would be a Tendency to Begin Construction of Plants Prematurely or a Tendency to Delay Construction Completion (Cont'd)

A further control over any alleged management tendency to overbuild is that many regulatory commissions have jurisdiction over new financings and new construction. In those states, electric utilities must justify the need and plans for new facilities before starting construction programs or projects. The hearings and proceedings to secure financing approvals, construction permits and operating licenses require considerable involvement of regulatory authorities in the necessity for additional facilities, and in selecting the types of generation facilities. In these situations, the ability of a utility to embark on unnecessary or inefficient construction programs should be minimized, irrespective of the rate-making treatment of CWIP.

It is not possible to quantify the impact that inclusion of CWIP in rate base may have had on encouraging or discouraging construction delays. Only a limited number of states allow full inclusion of CWIP in rate base and any sample would not be meaningful. There are many factors that influence construction delays but the inclusion of CWIP in rate base would not appear to be one. It is certain, however, that a delay in construction can increase costs to future consumers by even a greater extent with CWIP excluded from

Whether, by Inclusion of CWIP in Rate Base, There Would be a Tendency to Begin Construction of Plants Prematurely or a Tendency to Delay Construction Completion (Cont'd)

rate base and AFUDC capitalized. As shown by the amounts on Exhibit III-12, there are significant cost increases when plant construction is delayed.

Whether There Would Be Less Competition in Bulk Power Supply Because Consumers (e.g., Publicly Owned Utilities) Would Be Discouraged from Building their Own Generation Facilities Since They Would Be Paying for Privately Owned Facilities Through Inclusion of CWIP

Some publicly owned electric utilities argue that the inclusion of CWIP in the rate base would discourage public entities from building their own generating and transmission plant rather than purchasing and distributing power generated by investor owned utilities.

In 1975, the publicly owned electric utilities purchased approximately 96 million kilowatt-hours of electricity from privately owned utilities. This represented approximately 5.5% of privately owned electric utilities kilowatt-hour sales for 1975. The sales of electricity by investor owned electric utilities to the publicly owned utilities is regulated by the Federal Power Commission, which establishes the rates for these sales.

Whether There Would Be Less Competition in Bulk Power Supply Because Consumers (e.g., Publicly Owned Utilities) Would Be Discouraged from Building their Own Generation Facilities Since They Would Be Paying for Privately Owned Facilities Through Inclusion of CWIP (Cont'd)

The contention that the inclusion of CWIP in the rate base of investor owned electric utilities is apparently based on the premise that publicly built generation plants could not compete on a cost basis with plants built by investor owned utilities regulated on the basis of CWIP in rate base. It is contended that if during the construction period of new generating facilities, the public entity capitalized AFUDC and the investor owned electric utilities were able to include CWIP in the rate base, the investor-owned utility would have a competitive advantage over the publicly owned electric utilities because the investor owned utility would have a lower depreciation and return base. This alleged competitive advantage of the investor owned utility would discourage public entities from constructing generating and transmission facilities. In addition, it is claimed that the consumers of the publicly owned electric utilities (who would be current consumers of the investor owned utility until the publicly owned plant was in operation) would be paying in their rates to the investor owned utilities the financing costs of facilities which they would never use, and hence never receive the future lower rates.

Whether There Would Be Less Competition in Bulk Power Supply Because Consumers (e.g., Publicly Owned Utilities) Would Be Discouraged from Building their Own Generation Facilities Since They Would Be Paying for Privately Owned Facilities Through Inclusion of CWIP (Cont'd)

It is not within the scope of this study to consider whether it is in the public interest for public entities to build their own generating facilities rather than purchase power from investor owned utilities. However, if it is assumed that such a policy is in the public interest, there are several factors which can be considered:

1. The competitive advantages of a public entity such as, lower capital costs resulting from the ability to issue tax exempt bonds, no income taxes, and, possibly reduced property or "in lieu" tax payments, seem to ensure that if the investor and publicly owned plants are equally efficient there should be no competitive disadvantage.

2. If a certain class of consumers would definitely not use a plant currently under construction, it would be appropriate to exclude this plant from the rate base of that class of consumers. However, this is not a question of whether CWIP should be included in rate base, but rather a question of the allocation of the CWIP in rate base to the appropriate class of consumers.

Whether There Would Be Less Competition in Bulk Power Supply Because Consumers (e.g., Publicly Owned Utilities) Would Be Discouraged from Building their Own Generation Facilities Since They Would Be Paying for Privately Owned Facilities Through Inclusion of CWIP (Cont'd)

3. If inclusion of CWIP initially increases the rates to wholesale customers, that increase would seem to make the alternative of building generating facilities rather than purchasing power initially more competitive, not less.

4. A customer should not escape costs of maintaining an ongoing system simply because the customer might build its own facilities.

Whether CWIP Is "Used and Useful"

The issue as to whether CWIP is "used and useful" in rendering service to consumers has been the subject of considerable debate and discussion in commission proceedings and court cases. Among the arguments used by the proponents of the rate-making treatment of including CWIP in rate base as to whether CWIP is used and useful are:

- Present consumers should pay for insuring that their future demands for service will be met;
- Regulatory responsibilities include the protection of future consumer's interests;
- Steps to insure the adequacy of energy supply should be considered in applying the used and useful concept; and

Whether CWIP Is
"Used and Useful" (Cont'd)

- Commissions have legal authority to adopt the rate-making procedure of including CWIP in rate base

On the other hand, opponents have argued that CWIP is not used and useful since:

- Plant is not used and useful until it is placed in operation;
- Only the AFUDC process is consistent with the used and useful concept since costs are deferred and collected from consumers when the plant is actually used in providing electric service; and
- Commissions have no legal authority to adopt the rate-making procedure of including CWIP in rate base.

These arguments, as they affect consumers, have been dealt with in the preceding sections. While there are legal questions involved here which are not within our professional scope, we have noted the following citations in support of the proposition that a commission may consider CWIP as used and useful.

The District of Columbia Circuit Court considered the inclusion of CWIP in rate base under the statute that grants authority for the purposes of setting rates to the Public Service Commission of the District of Columbia in the case of Goodman v. Public Service Commission, 419 F. 2d 661 (D.C. Cir. 1974). In that case, the Public Service Commission of the District of Columbia followed its long-standing practice of including CWIP in rate base for the purpose of setting rates for Potomac Electric Power Company ("PEPCO"). PEPCO did not capitalize funds used during construction. The District of Columbia Circuit Court affirmed the action of the Commission and the District of Columbia Court of Appeals. After recognizing that utilities have capital devoted to non-revenue producing construction of new plants and that a utility must receive an adequate return on the investment in non-revenue producing plants during construction, the Court stated:

> "Appellant argues broadly that PEPCO is only entitled to have included in the rate base investments which are "used and useful", which appellant asserts must mean actually producing electricity....
>
> "Appellant convinces us of no more than the fact that there are several methods for handling plants under construction which have met with both regulatory and judicial approval. The Commission has followed the practice of including such plant under construction in PEPCO's rate base for more than twenty years....
>
> "Appellant's major argument appears to be that if plant under construction is included in the rate base, the ratepayers will be forced to assume a responsibility to pay for property which does not now benefit them and that this duty properly should fall on those who invest in the utility. This overlooks the fact that here PEPCO has <u>not</u> capitalized interest during construction. The utility must be compensated, either by including in the rate base interest during construction or by including in the rate base the value of funds invested in the plant during construction. It is only when both plant under construction and capitalized interest are in the rate base that there would be produced an improper double return in the year of construction....

> "In supporting its choice of method for treatment of plant under construction, the Commission articulated its reasons for choosing a method other than that proposed by appellant. In its justification of the inclusion of plant under construction in the rate base, the Commission observed that there were alternative methods available, providing no double return was granted the utility. The Commission specifically found that 'the funds invested in construction are being used for the benefit of the public just as much as funds invested in plant in service,' particularly where 'the record has demonstrated a continuing need for permanently financing a large construction program.' We believe that recitation is sufficient. Funds are not necessarily 'used or useful' only when they are currently invested in completed plants... At any rate, appellant fails to convince the court that there is any legal reason why such a method cannot be used. Since the Commission chose between alternatives, and achieved a reasonable result, we cannot disturb their findings." (Goodman v. Public Service Commission, 497 F. 2d 661, 667-669 (D.C. Cir. 1974) (Emphasis in original; footnotes omitted).

The Goodman case is important as it approved, under a statutory framework identical in import to the Federal Power Act, the inclusion of CWIP in rate base. The Court specifically held that the "used and useful" concept was no bar to the treatment of including CWIP in rate base with a current cessation of capitalizing AFUDC.

It should also be observed that many state commissions allow CWIP in rate base and such treatment has been judicially approved in many instances as being in accordance with statutes providing that property must be "used and useful" before it can be included in rate base. These cases demonstrate that the "used and useful" concept does not mean that the property must be actually providing electric service before it is "used and useful," e.g., Shevin v. Yarborough, 274 So. 2d 505, 509-510 (Fla. Sup. Ct. 1973); Baltimore Gas and Electric Co. v. People's Council, 220 Md. 373, 152 A. 2d 825, 827-829 (1959).

The Missouri Public Service Commission recently viewed the matter of allowing a substantial portion of CWIP in rate base as follows:

> "The Commission finds that the monies in this adjustment to rate base are 'capital actually expended.' Therefore, the issue becomes whether or not the Commission should allow nuclear CWIP in rate base given the facts in these cases in the exercise of the Commission's administrative discretion. It has been the long-standing policy of this Commission, and in the majority of jurisdictions, to disallow a return on property that is not 'used and useful' in the public service. However, as other commissions have found, the term 'used and useful' can reasonably be construed to include monies expended for constructing facilities necessary to serve the needs and demands of the customers of the company." (Union Electric Co., Case Nos. 18,314 and 18,527, Order at pp. 13-14 (Mo. Pub. Serv. Comm'n 1976)).

In November, 1976, however, the voters of Missouri by referendum disallowed the inclusion of CWIP in rate base, but this decision by the voters would not appear to be the result of any technical consideration of whether CWIP is used and useful.

Whether CWIP is
"Used and Useful" (Cont'd)

On November 8, 1976, the Federal Power Commission issued Order No. 555, Order Adopting in Part Construction Work in Progress Rulemaking and Terminating Proceedings. The Federal Power Commission specifically addressed the "used and useful" argument in this Order No. 555 as follows:

> "all of the above considerations lead this Commission to conclude that it will not adhere to an absolute rule that plant must be "used and useful" in the traditional sense before it may be included in rate base. Of course, in a very real sense, a plant under construction, which will go on line in the future, is quite useful to consumers. Were the plant not under construction, the consumers might well be facing a certain danger of future power insufficiency, which threat will be alleviated by the new plant."

This Order of the Federal Power Commission provided that CWIP could be included in rate base as to electric rates subject to that Commission's jurisdiction when such CWIP relates to the installation of pollution control facilities or to facilities to convert oil and natural gas burning generating facilities to coal. The FPC also stated that in the case of "severe financial difficulties" they would consider the allowance of additional CWIP in rate base.

Section IV

RECOGNITION OF THE ECONOMIC COST OF INCOME TAXES THROUGH NORMALIZATION ACCOUNTING

Introduction

Recognition of the real economic cost of income taxes would:

- Increase utility internal generation of cash for construction,
- Increase the quality of earnings and earning power, thereby reducing the cost of money and revenue requirements from consumers,
- Increase the soundness or strength of utility balance sheets, thereby reducing the cost of money and revenue requirements from consumers,
- Reduce rate base, thereby reducing revenue requirements from consumers,
- Place utility accounting on the same basis as all other businesses.

The above benefits to consumers, investors and to other public groups would be realized after a transition period of a few years. The cumulative benefits in excess of the burden in transition would be a continuing strength to all who depend on electricity as well as a cost saving.

Most electric utilities have already been permitted to adopt some degree of tax normalization for rate-making purposes and are presently receiving cash flow benefits from it. A limited number of companies now normalize for all tax timing differences. However, adoption of full normalization would provide additional cash to many utilities. Since utilities which are substantially flow-through have less internally generated funds for construction expenditures, those companies would find adoption of full normalization to be particularly helpful.

The detailed effects of normalization are explained and illustrated herein as follows:

Introduction (Cont'd)

The Nature of Tax-Timing Differences

The term "timing difference" has been defined by the accounting profession as "...differences between the periods in which transactions affect taxable income and the periods in which they enter into the determination of pretax accounting income. Timing differences originate in one period and reverse or turn around in one or more subsequent periods..." (Accounting Principles Board Opinion No. 11, paragraph 13e, December, 1967).

The timing differences that are the subject of this study are those created when the write-off of the cost of property is recognized as an expense in one period (usually earlier) for income tax return purposes and in another period (usually later) for accounting (book) and rate-making purposes. The total amount of the plant costs to be written off over the life of the plant is the same for income tax, accounting and rate-making purposes.

Many of these timing differences have arisen because of special tax incentives granted by Congress for purposes of encouraging expansion and modernization of the nation's productive facilities. The investment tax (job development) credit, however, is not a tax timing difference, and is therefore explained separately in a later section of this report.

The Nature of Tax-Timing Differences (Cont'd)

As a means of understanding tax timing differences, it would first be helpful to look at the accounting and reporting that takes place when there are no such differences. Traditionally in accounting, income taxes are reported as the last item on the income statement, in effect indicating which portions of the pretax income from operations are distributed to the taxing authority as income taxes and the remaining portion that is then available for distribution to or investment by the shareholders. Under the Internal Revenue Code, the determination of taxable income is to a large extent based on the revenue and expense that is on the books. Therefore, the amount reported as "Income Before Income Taxes" (pretax income) on the financial statements historically would be similar to taxable income on the tax return, and the amount of income taxes reported on the income statement would ordinarily have a close relationship to income taxes paid or computed at the statutory rate. The following extremely simplified income statement illustrates this relationship when income taxes are at an assumed 50% rate.

	Books	Tax Return
Revenues	$1,000	$1,000
Depreciation	(200)	(200)
Other Expenses	(600)	(600)
	------	------
Income Before Income Taxes/Taxable income	200	200
Income Taxes	(100)	$ 100
	------	======
Net Income	$ 100	
	======	

In this case, the relationship between "Income Before Income Taxes" and "Income Taxes" clearly shows that the effective tax rate is 50%. Reporting income taxes as the last item on the income statement before net income is the practice followed by most businesses. With respect to utilities, however, income taxes are included with operating expenses, as illustrated on page III-7, because the income taxes are an operating expense recoverable in cost of service for rate-making purposes. Although utility statements may not include a caption labeled "Income Before Income Taxes," the amount could be computed by adding the income tax expense to net income. One would expect that the relationship between a utility's computed "Income Before Income Taxes" and "Income Taxes" would be at approximately the statutory income tax rate as for any other business, as all businesses are subject to the same Internal Revenue Code.

There have always been some differences, however, between book Income before Income Taxes and taxable income reported on the tax return because of amounts which were includable in or deductible from taxable income for the year, but were not includable in or deductible from book Income Before Income Taxes for the year, or vice versa. Certain of these differences are related to additions to book income that would never be taxable, such as interest on municipal securities, or are related to subtractions from book income that are not allowed as deductions for tax purposes such as permitted political contributions. Tax deductions which are not recorded as an expense on the books would include the excess of percentage depletion over cost depletion. The differences described in this paragraph are referred to as "permanent" differences.

There are also differences between book Income Before Income Taxes and taxable income which relate to revenues that would be reported on the books in one year and on the tax return in another, or expenses that would be recorded on the books in one year and deducted on the tax return in a different year. These differences are referred to as "tax timing" differences and have become much more numerous during the last quarter century. It is these "tax timing" differences that are involved in discussions as to the merits of normalization and of flow through.

With respect to the utilities, the principal tax timing differences relate to the year in which the cost of utility plant is to be written off (depreciated). The tax timing differences that relate to the write-off of property on the books in one year and allowed as a deduction for tax purposes in another year can be classified into three groups:

The Nature of Tax-Timing Differences (Cont'd)

1. Differences in methods of depreciation.
2. Differences in the service lives of property.
3. Differences arising from costs which are a current deduction for tax purposes and a cost of property for rate-making and financial statement purposes.

Each of these three types of tax timing differences is illustrated in the following examples. In the example below of a simplified income statement, there are no tax timing differences and the income statement would be the same each year.

	Amount
Revenues	$1,000
Depreciation	(200)
Other Expenses	(600)
Income Before Income Taxes	200
Income Taxes	(100)
Net Income	$ 100

Differences in Methods of Depreciation

The following example describes the income statements when the taxpayer elects a different method of depreciation for tax purposes than the straight-line method shown above. The sum-of-the-years digits depreciation method (which is one of the accelerated methods allowed by the Internal Revenue Code) is elected in lieu of the straight-line depreciation method for tax purposes. It is assumed in the example to the left below that accelerated depreciation was also recorded on the books as well as used for tax purposes. Therefore, the amount of book Income Before Income Taxes is the same as taxable income. As will be seen, the amount of net income is lower in the first year than when straight-line depreciation is used for both book and income tax purposes above, and higher in the third year. The example on the right below assumes that the straight-line depreciation continues to be recorded on the books but that recorded income tax expense is based on the taxes payable as shown in the table to the left. It will be seen that net income is higher in the first year than when straight-line depreciation is used for both book and income tax purposes, and is lower in the third year - the opposite of the example to the left.

	Accelerated Depreciation Used for Book & Tax Purposes			Accelerated Depreciation Used for Tax Purposes and Straight Line Depreciation Used for Book Purposes		
	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
Revenues	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000
Depreciation	(300)	(200)	(100)	(200)	(200)	(200)
Other Expenses	(600)	(600)	(600)	(600)	(600)	(600)
Income Before Income Taxes	100	200	300	200	200	200
Income Taxes	(50)	(100)	(150)	(50)	(100)	(150)
Net Income	$ 50	$ 100	$ 150	$ 150	$ 100	$ 50

Differences in Methods of Depreciation (Cont'd)

Neither example produces net income in Years 1 and 3 that reflects the real earnings. If straight-line depreciation were to be considered the best measure of the depreciation applicable to each year (the straight-line method is almost universally used by public utilities), it would be improper to record accelerated depreciation on the books merely because it is allowed for tax purposes as shown to the left. On the other hand, if straight-line depreciation is recorded on the books as on the right but income tax expense is based on using accelerated depreciation, the net income as reported in Year 1 to the right would not reflect the fact that the reduction in taxes payable has been achieved by a using up of the asset's tax deductibility more rapidly.

Differences in the Service Lives of Property

Where there are differences in the lives used for book and tax return purposes, the same fallacies described above can be seen in the two examples set on the next page. It is assumed that for tax purposes a taxpayer is allowed to write off the property in two years even though the property has a service life of three years. In the example to the left, the two-year write-off period has also been used on the books, thereby producing lower net income in the first two years and higher net income in the third year. In the example to the right, the property is written off on the books over its three-year life, and tax expense is based on the taxes payable as set forth in the left half of the table below. In this example, net income is higher in the first two years and lower in the third year - the opposite of the example to the left.

	Shorter Life Used for Book and Tax Purposes			Shorter Life Used for Tax Purposes Only		
	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
Revenues	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000
Depreciation	(300)	(300)	--	(200)	(200)	(200)
Other Expenses	(600)	(600)	(600)	(600)	(600)	(600)
Income Before Income Taxes	100	100	400	200	200	200
Income Taxes	(50)	(50)	(200)	(50)	(50)	(200)
Net Income	$ 50	$ 50	$ 200	$ 150	$ 150	$ --

If the service life of the property is three years, it would be improper to depreciate the asset over two years on the books. On the other hand, if the three-year life is used on the books as in the example to the right, and income tax expense is based on using a two-year life, the net income reported in Year 1 to the right would not reflect the fact that the reduction in taxes payable has been achieved by using up the asset's tax deductibility more rapidly.

Differences Arising From Costs Which Are a Current Expense for Tax Purposes and a Cost of Property for Rate-Making and Financial Statement Purposes

The third difference relates to differences in the depreciable basis of property for tax purposes. A common example in the utility industry is a situation where the portion of the cost of an asset such as pension costs and payroll taxes is capitalized for book purposes but written off immediately for tax purposes. There are statutory provisions and elections which permit capitalized pension costs and payroll taxes to be deducted on the tax return as incurred.

In the example on the next page, it is assumed that of the $600 property cost, $120 represents pensions and payroll taxes which are deducted for tax purposes in Year 1. This reduces the tax depreciable base of the property from $600 to $480.

In the example to the left, the $120 of pension costs and payroll taxes are expensed for both book and for income tax purposes and the remaining depreciation base of $480 is written off over three years. As can be seen, the net income in the first year is $60 and the net income in the second and third year is $120. The example to the right is based on writing off the $600 asset on a straight-line basis over its three-year life, and tax expense is based on taxes payable as shown to the left. In the example to the right, net income increased to $140 in the first year and decreased to $80 in years 2 and 3.

Differences Arising From Costs Which Are a Current Expense for Tax Purposes and a Cost of Property for Rate-Making and Financial Statement Purposes (Cont'd)

	Pensions Costs and Payroll Taxes Expensed for Tax and Book Purposes			Pension Costs and Payroll Taxes Expensed for Tax Purposes and Capitalized for Book Purposes		
	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
Revenues	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000
Depreciation	(160)	(160)	(160)	(200)	(200)	(200)
Pension and Payroll Taxes	(120)	---	---	---	---	---
Other Expenses	(600)	(600)	(600)	(600)	(600)	(600)
Income Before Income Taxes	120	240	240	200	200	200
Income Taxes	(60)	(120)	(120)	(60)	(120)	(120)
Net Income	$ 60	$ 120	$ 120	$ 140	$ 80	$ 80

Since the pension costs and payroll taxes applicable to construction labor are capitalized, it would be improper to write them off in Year 1. On the other hand, if they are capitalized and depreciated on the books as in the example on the right, income tax expense reported in Year 1 to the right would not reflect the fact that the reduction in taxes payable has been achieved by using up the capitalized asset's tax deductibility more rapidly.

The Accounting for Tax-Timing Differences

In the above examples of tax-timing differences, if tax accounting is followed for book purposes, net income is initially reduced and later increased. If only taxes payable are recorded as tax expense, and the book depreciation is based on a three-year straight-line basis, net income is initially increased and later reduced. Neither of these alternatives properly reflects the effect of tax-timing differences in the financial statements. They do not reflect that when a reduction in taxes payable is achieved by utilizing a tax-timing difference, a cost is incurred.

Generally accepted accounting principles require recognition of this cost through a "provision for deferred taxes." The practice is referred to as interperiod tax allocation or "normalization."

The term "normalization" evolved with respect to utilities because reported net income would be the "normal" amount, had the company not adopted a tax return method which created the tax-timing difference. Under the deferred tax or normalization concept, the taxes that would be payable, except for the use of the tax return deduction which created the tax-timing difference, are merely deferred, not saved. In the early years of property life, the deferred taxes are charged to expense with a contra credit to a reserve. In later years, when the tax write-offs are lower than they otherwise would be, the higher taxes then payable are charged against this reserve. The three examples below set forth how deferred tax accounting would be recorded in Year 1 with respect to each of the three tax-timing differences described earlier:

	Accelerated Depreciation Used for Tax Purposes	Shorter Lives Used for Tax Purposes	Capitalized Pensions Costs and Payroll Taxes Expensed for Tax Purposes
Revenues	$1,000	$1,000	$1,000
Depreciation	(200)	(200)	(200)
Other Expenses	(600)	(600)	(600)
Income Before Income Taxes	200	200	200
Income Taxes:			
Payable	(50)	(50)	(60)
Deferred	(50)	(50)	(40)
Net Income	$ 100	$ 100	$ 100

The accounting requirement for recording the deferred portion of the income tax expense is based on one of three conceptual foundations:

1. The Deferral Concept is based upon the premise that the taxes recorded in the income statement for a year should be related (or matched) to the revenues and expenses recorded on the books in the

same year. The fact that such expenses would be recognized as a deduction for tax purposes in an earlier or later year requires a recording of the cost incurred when the expense is deducted for tax purposes which would be equal to the tax effect of the additional tax deduction. This would "match" tax expense to book Income Before Income Taxes. This is the concept which the accounting profession has adopted. While deferred charges and deferred credits may be difficult to understand, deferred tax accounting does provide a workable framework for recognizing the effect of tax-timing differences in the income statement and, at present, it is widely accepted, not only by the accounting profession but by most rate regulatory commissions.

2. The Liability Concept is based on the premise that using up tax deductions currently, thereby lowering taxes payable, creates an obligation for higher taxes in the future which should be recorded. Recognition of the obligation in the accounts is consistent with the concept of matching revenue and costs in the income statement. It is a practical approach to showing future obligations in balance sheets even though there may be no immediate "legal liability" to pay the higher taxes. The investments

giving rise to such tax deferrals are made by management for the purpose of expanding production or reducing costs as a step in improving earnings. If management does not expect such long-lived property additions to generate future earnings they should not make the capital commitment or spend the cash. Having concluded that the capital commitment should be profitable they should recognize the future tax deductions given up through accelerated write-offs and recognize the deferred taxes in the accounts and statements. To spend cash for property and to say there would be no future earnings to be taxed is a contradiction.

3. The Cost or Net-of-Tax Concept recognizes that inherent in an asset are two characteristics. One is the ability of that asset to generate revenues by producing a product. The second is the ability of that asset to reduce income taxes otherwise payable. When book and tax depreciation are the same, the service-producing capacity of the asset and the tax-reducing capacity of the asset are written off at the same rate. However, when a taxpayer has sufficient earnings and elects to write off an asset more rapidly for tax purposes,

as in the three examples on page IV-17, the tax-reducing capacity of the asset is consumed or used up more rapidly. Under this concept, the more rapid consumption of the asset's capacity to reduce income taxes represents an additional cost equal to the tax effect of the tax deferral, a timing difference. The accelerated using-up of the asset's tax-reducing capacity may be recorded as additional depreciation or deferred tax expense. Most companies consider it to be a deferred tax.

In most situations, the amount of the deferred tax provision under each of these three concepts would be the same.

The principal arguments used by those who assert that a provision for deferred taxes does not constitute a current cost are that (1) income tax expense for the year should only include those taxes legally payable with respect to the tax return applicable to that year, and any provision in excess of taxes payable represents "phantom" taxes, and (2) when property additions are growing, as they are for most utilities, deferred tax provision in the aggregate would continue to grow and would never turn around, and thereby the tax timing differences are, in fact, "permanent differences." Actual experience has made it clear that flow-through of such taxes to income is not supportable, it gives rise to unjustified omissions of cost from Statements of Income and Balance Sheets.

The accounting concept of recognizing tax-timing differences and recording deferred tax provisions has primarily evolved since 1954. Prior to 1954, tax-timing differences were usually not significant for many taxpayers, although there were certain five-year write-offs for tax purposes allowed on defense facilities constructed during World War II and during the Korean War. There were no established accounting rules for these five-year write-offs. Some taxpayers recorded a "charge in lieu of taxes," and others recorded a provision for deferred taxes. Other taxpayers wrote the assets off on the books over the same five-year life on the basis that the asset had been constructed primarily to serve wartime requirements and the facilities would have an uncertain usefulness in a peacetime economy. Other taxpayers recorded tax expense on a taxes payable basis (flow-through).

An early pronouncement by the accounting profession was Accounting Research Bulletin No. 23, December 1944. This bulletin was codified into Section 10B of Accounting Research Bulletin No. 43, June, 1953, which stated in paragraph 4 that: "Income taxes are an expense that should be allocated. What the income statement should reflect under this head, as under any other head, is the expense properly allocable to the income included in the income statement for the year." (underscoring added) The wording was sufficiently vague that many companies asserted that it could be used to support either the taxes actually payable (flow-through) concept or the concept of allocating tax expense between years (normalization).

The accelerated provisions of the Internal Revenue Code adopted in 1954 resulted in the first significant tax timing difference that broadly affected all American business. The accounting profession took prompt action and in October 1954 the Committee on Accounting Procedures issued Accounting Research Bulletin No. 44 which stated that: "...deferred income taxes need not be recognized in the accounts unless it is reasonably certain that the reduction in taxes during the earlier year of use of the declining balance method for tax purposes is merely a deferment of income taxes until a relatively few years later..."

In 1958, the Accounting Research Committee reconsidered Bulletin No. 44 in the light of four years' experience and concluded that: "...recognition of deferred income taxes in the general accounts is needed to obtain an equitable matching of costs and revenue to avoid income distortion..." There was a special exception in revised Bulletin No. 44 for certain public utilities which will be discussed later.

The Accounting Principles Board was organized in 1961 and APB Opinion No. 1, issued in November 1962, set forth that deferred tax accounting should be followed for tax-timing differences that were created in 1962 by the IRS Revenue Procedures 62-21 (July 1962) prescribing guideline lives. The guideline lives tended to be shorter than the tax lives previously allowed resulting in increased depreciation for tax purposes in the earlier years of property life. The accounting exception for some utilities included in paragraph 8 of Bulletin No. 44 was carried over.

In December 1967, the Accounting Principles Board prescribed in Opinion No. 11 that, in general, deferred taxes should be provided for all tax-timing differences. This is the professional standard today except for those public utilities which are regulated on a flow-through basis.

Opinion No. 11 has been adopted by the Securities and Exchange Commission as representing authoritative support. Further, an auditors' report on the financial statements of a business (except for flow-through utilities) should contain an exception if a material amount of deferred taxes was omitted from the financial statements. The SEC will not accept an auditors' report with such an exception in Registration Statements filed with it.

The Treatment of Tax-Timing Differences for Rate-Making Purposes

Prior to 1954, tax-timing differences were fairly constant in amount and were smaller than in later years. As a result, they were not generally an issue in rate-making proceedings.

When accelerated depreciation methods were first permitted in 1954, many, but by no means all, utilities adopted accelerated depreciation for tax purposes. In fact, it was not until after the passage of the Tax Reform Act in 1969 that a number of large electric utilities and the two largest telephone companies adopted accelerated depreciation for tax purposes. Starting in 1954, a number of regulatory commissions permitted utilities to record a provision for deferred taxes and allowed it in the cost of service for rate-making purposes, particularly since such an allowance did not increase current revenue requirements over what they otherwise would have been.

The Treatment of Tax-Timing Differences
for Rate-Making Purposes (Cont'd)

The effects on revenue requirements (1) of using straight-line tax depreciation, (2) of using an accelerated tax depreciation method and recording deferred taxes (normalization), and (3) of using an accelerated depreciation method and recording no deferred taxes (flow-through), are set forth in the examples on page IV-27. In these examples, it is assumed that a utility adopts the double declining balance method of depreciation for tax purposes on new property additions of $25,000, that the book depreciation rate is 3.2%, that the tax depreciation rate would therefore be 6.4%, and that the income tax rate is 50%.

The Deferred Tax Calculation

Double Declining Balance Tax Depreciation	- 6.4% x $25,000 =	$1,600
Straight-Line Depreciation	- 3.2% x $25,000 =	800
Additional Tax Depreciation		$ 800
Deferred Taxes Resulting from the Reduction in Taxes Payable, at a 50% Tax Rate		$ 400

The balance sheet before the first year of election to take accelerated depreciation:

The Deferred Tax Calculation (Cont'd)

Assets		Liabilities	
Utility Plant		Long-Term Debt, 8%	$100,000
Gross Plant in Service	$225,000	Equity (at 12%	
New Additions	25,000	Estimated Cost)	100,000
	$250,000		
Depreciation Reserve	50,000		
	$200,000		$200,000

The revenue requirements using straight-line tax depreciation and using accelerated tax depreciation, normalized and flow through, are shown on the succeeding page.

Revenue Requirements Calculation:

	Straight-Line Tax Depreciation	Accelerated Tax Depreciation Normalized	Accelerated Tax Depreciation Flow-Through
Rate Base	$200,000	$200,000	$200,000
Rate of Return	10%	10%	10%
Return	20,000	20,000	20,000
Depreciation	8,000	8,000	8,000
Income Taxes			
Payable	12,000	11,600	11,200
Deferred	-	400	-
Other Expenses	50,000	50,000	50,000
Total Revenue Requirements	$ 90,000	$ 90,000	$ 89,200

Income Taxes Payable Calculation:

	Straight-Line Tax Depreciation	Normalized	Flow-Through
Revenues	$ 90,000	$ 90,000	$ 89,200
Depreciation	(8,000)	(8,800)	(8,800)
Other Expenses	(50,000)	(50,000)	(50,000)
Interest	(8,000)	(8,000)	(8,000)
Taxable Income	$ 24,000	$ 23,200	$ 22,400
Taxes Payable at 50%	$ 12,000	$ 11,600	$ 11,200

As shown on the above table, the election to use accelerated tax depreciation and normalization rate-making rather than straight-line depreciation for book and tax purposes does not increase revenue requirements when first elected. However, where only taxes payable are included in the revenue requirements computation (flow-through rate-making), there is a revenue requirement reduction equivalent to twice the reduction in taxes payable resulting from the election to use accelerated tax depreciation. This is because income tax expense itself is not deductible for tax purposes and the reduction in revenue requirements representing the $400 reduction in income taxes also reduces taxable income by $400, which further reduces income taxes. The step-by-step computation of income tax expense under flow-through rate-making is illustrated below:

	Revenue Requirements	Income Taxes Deferred	Income Taxes Payable
Using straight-line tax depreciation	$90,000	$ -	$12,000
Elect accelerated tax depreciation		400	(400)
Effect of flow-through rate-making:			
Deferred tax cost ignored	(400)	(400)	
Taxes payable further reduced because of reduction in taxable revenues	(400)		(400)
	$89,200	$ -	$11,200

Revenue Requirements Calculation (Cont'd)

In subsequent years, flow-through revenue requirements will be higher because (1) there is no rate base reduction as occurs under normalization, and (2) taxes payable will be higher after the turn around point than tax expense will be on a normalized basis. These higher revenue requirements under flow-through will be further increased because of the additional taxes resulting from increases in taxable income described above.

HISTORICAL BACKGROUND

Provisions of the Internal Revenue Code that Created Tax-Timing Differences

The first significant tax incentive that affected all taxpayers was a provision of the new Internal Revenue Code of 1954, which permitted accelerated methods of depreciation. Prior to enactment of this legislation, tax depreciation allowances were generally limited to those computed using the straight-line method, which is designed to spread the cost of the property evenly over its estimated useful life.

The accelerated depreciation provisions of the Internal Revenue Code of 1954, specifically Section 167(b) (2), (3) and (4), permit taxpayers to take greater amounts of depreciation in the early years of property life and lesser amounts in later years. Although these methods permit the taxpayers to recover capital investments more rapidly for tax purposes, taxpayers are still limited to deducting the depreciable cost of property over its estimated life. Only the timing, not the ultimate amount of depreciation, is affected.

Two accelerated methods were specifically provided for, the declining-balance method and the sum-of-the-years-digits method. Both result in the same approximate pattern of depreciation deductions, which is a declining tax deduction each year and the recovery of over two-thirds of the depreciable plant cost during the first half of property life. The Code also permits the use of other methods if the total deductions during the first two-thirds of property life do not exceed the deductions permitted under the declining-balance method.

The statements in 1954 before the Congressional committees, in the Committee Reports and on the floor of Congress indicated that among other purposes, Congress intended that the acceleration of tax depreciation would generate capital for investment, thereby stimulating expansion, which would contribute to high levels of output and employment. The House Report stated: "The faster tax write-off would increase available working capital and materially aid growing businesses in the financing of their expansion" (House of Representatives Report No. 1337, 83rd Congress, 2nd Session, H.R. 8300). However, Congress only accelerated tax depreciation deductions; it did not increase total tax depreciation. Therefore, the economic benefit to the taxpayer arising from the use of accelerated tax depreciation is the time-value of the money because of the postponement of tax payments. The availability of these interest-free funds reduce the requirements for other sources of capital, thereby reducing capital costs.

Prior to 1962, there were some usually relatively minor differences between book and tax lives. Bulletin F, as issued by the Internal Revenue Service in 1942 set forth suggested lives for various items of electric utility property. The lives set forth therein were, in some cases, lower than lives that the regulatory authorities were allowing utilities to use for accounting and for rate-making purposes. Some utilities were claiming lives shorter than the Bulletin F lives, based on their own "facts and circumstances." Because of the many controversies that arose between taxpayers and the Internal Revenue Service, in 1962 the Internal Revenue Service issued Revenue Procedure 62-21, which set forth certain "guideline lives" which would not be adjusted by the Internal Revenue Service if certain practices were followed. These lives were usually shorter than the Bulletin F lives and the lives used for accounting and rate-making purposes.

In the Revenue Act of 1971, Congress provided in Section 167(m) of the Internal Revenue Code that the Internal Revenue Service could prescribe "class lives" (which were generally a continuation of the guideline lives) and permitted taxpayers to use a depreciation life for tax purposes up to 20% shorter than the prescribed class life. If a class life for a particular asset were 30 years, a taxpayer could use a life as short as 24 years. Since the total amount of tax deductions with respect to an asset is not changed by the use of the shorter tax lives, the greater depreciation deductions in the earlier years will be offset by no depreciation deductions after the 24-year life, for example, has been reached.

In addition, the Revenue Act of 1971 allowed taxpayers, again as a means of reducing controversy, to deduct an amount as repairs limited to a percent of plant. Repairs are defined in such a way that utilities can generally deduct currently the costs which were incurred and charged to the repair and maintenance accounts plus certain additions or replacements of relatively small items of property. Utilizing the repair allowance reduced the depreciable base of the property. Since these additions or replacements are capitalized in the books, the "repair allowance" creates another timing difference and book depreciation is higher as to these additions than tax depreciation in the years after the repair allowance is claimed.

In 1971, the Internal Revenue Service allowed taxpayers to elect to expense cost of removal as incurred on property installed prior to 1971. The previous practice for tax purposes, which coincides with the practice required for book and rate-making purposes, is to consider cost of removal a cost which should be recovered in the depreciation provision over the life of the property. Thus, cost of removal is a tax-timing difference and an item which should, under the standards of the accounting profession, be normalized.

As a means of encouraging the installation of pollution control equipment on existing facilities, the Tax Reform Act of 1969 allowed taxpayers to write off certain qualifying pollution control equipment over a five-year period. On the books and for rate-making purposes, such property is being written off by utilities in general over the service life of the property on which installed. After the five-year period, there will be book depreciation but no tax depreciation and taxes payable with respect to such property will be higher.

Taxpayers have been allowed to deduct in the year incurred, certain costs that are capitalized on the books, including indirect payroll costs such as payroll taxes and pension costs, sales and ad valorem taxes applicable to material charged to construction, and interest on debt used to finance construction. Such costs relate to the construction of new facilities and on the books these amounts are properly charged to the cost of these facilities. For book and rate-making purposes, the capitalized amounts will be included in depreciation expense over the operating life of the facilities. The effect of deducting such costs as incurred for tax purposes is equivalent to permitting 100% depreciation for tax purposes in the year the costs are incurred. Since the costs cannot be used to reduce taxes more than once, the current deduction of the costs for tax purposes reduces future tax depreciation on facilities. Although these costs are now being deducted, apparently based on specific statutory authority, there are questions as to deducting any other overhead costs capitalized on the books.

In a 1974 decision relating to Idaho Power Company, the United States Supreme Court upheld the IRS in claiming that book depreciation which had been capitalized as applicable to equipment used on construction projects had to be capitalized for tax as well as for accounting purposes. Some tax authorities believe that the Idaho Power case may be used as a basis for not permitting even the current deductions of capitalized pension, payroll or interest costs. Obviously, if not permitted, taxes payable would increase. If a company had been providing deferred taxes, the additional taxes would be charged to the deferred tax reserve and the disallowance would only reduce cash flow. If a company had no deferred tax reserve related to these items, not only would the current payment of income taxes result in a loss of cash flow, but it would cause an immediate and potentially large charge to earnings which should properly be recoverable in rates.

The Historical Treatment of Tax-Timing Differences for Rate-Making Purposes

From 1954 to 1962, about one-third of the state regulatory commissions in the United States adopted the flow-through method of rate making when accelerated tax depreciation was claimed, while about two-thirds of the commissions adopted or permitted normalization for rate-making purposes. This was a period of relatively level rates and since the adoption of accelerated tax depreciation with normalization did not increase revenue requirements over those required when straight-line tax depreciation was used, this did not cause any immediate adverse impact on customers' rates. It is noteworthy that many commissions took this step when, as indicated above, the accounting profession itself had taken an ambivalent position between 1954 and 1958.

When the flow-through rate-making method was adopted, immediate rate decreases often resulted since it was a period of relatively stable rate levels. In other instances, adopting flow-through provided a method for avoiding rate increases that otherwise would have been justified. The reasoning of these Commissions in adopting flow-through was usually based on the premise that these timing differences would be continued into the indefinite future and that under the rate-making concepts historically followed, no more than taxes actually payable should be allowed as a cost for rate-making purposes.

During this initial decision-making period, the evidence available was necessarily based on projections. We now have years of actual experience, including a number of factors which are now available, but were either not known or were not considered in those earlier years. If they had been, some flow-through commissions might well have adopted normalization, particularly since it would have had no adverse impact on customer's rates. These factors include:

(1) The Securities and Exchange Commission allowed flow-through accounting until it reversed its position in 1960;

(2) The accounting rules permitted all businesses to follow flow-through until the accounting profession adopted a normalization position in 1958 for accelerated depreciation and in 1967 for other timing differences;

(3) Congress did not consider the possibility of flow-through in the 1954 Internal Revenue Code, but Congress specifically stated, in connection with the Tax Reform Act of 1969, that they desired to prevent further flow-through;

(4) When commissions first adopted flow-through, investor reaction to flow-through accounting had not been studied to any degree; now there is extensive evidence that investors consider flow-through earnings to be of lower quality leading to a higher cost of capital;

(5) The adverse effect of flow-through in contrast to normalization on coverage ratios, on cash flow and on the rate of capital recovery was of less significance in the 1950's, a period of higher coverage ratios, lower interest rates and moderate needs for outside financing;

(6) Experience has demonstrated the long-run effects on revenue requirements to the consumers of normalization in contrast to flow-through;

(7) The flow-through resulting from capitalized payroll taxes, pension costs and interest has become much more significant in recent years as construction programs have grown and payroll tax rates, pension benefits and interest rates have increased.

Since 1962, there has been relatively little movement toward flow-through by state commissions which had adopted normalization for the tax effects of accelerated depreciation. By the mid 1960's the rate-making benefits of normalization were becoming apparent to many commissions.

During the past five to ten years, state commissions which permitted normalization of accelerated depreciation tax effects have also increasingly allowed gradual adoption of normalization for other tax-timing differences such as shorter tax lives and for costs such as pension, interest and payroll and use taxes capitalized on the books and deducted currently for tax purposes. These tax-timing differences have become significant in recent years because of the adoption of additional tax incentives as to asset lives and because of the skyrocketing increases in pension, payroll taxes and interest applicable to construction. As construction programs increased, interest capitalized has increased (because of the size of the construction program, length of the construction period, and the level of interest rates). Pension costs have increased relative to payroll costs, and Social Security and unemployment tax rates have increased. The tax-timing differences arising out of the current tax deductibility of these items have become greater. Furthermore, the adoption in 1967 of Opinion No. 11, which required deferred tax accounting for all tax-timing differences, has focused attention on the increasing significance of these tax-timing differences.

Although the position of state commissions had stabilized in 1962, in 1964 the Federal Power Commission, which had been on a normalization basis for accelerated depreciation, adopted flow-through rate-making in the Alabama-Tennessee Natural Gas Company case. This decision was appealed to the Circuit Court and upheld on the basis that the Commission had the right to choose between competing rate-making alternatives. A writ of certiorari to the U.S. Supreme Court was denied. The reasoning of the Federal Power Commission was primarily that, with respect to a growing company, the point would never be reached where taxes payable would be higher because accelerated tax depreciation was used instead of straight-line tax depreciation and for that reason the reserve which was being accumulated by means of provisions for deferred taxes would not be needed. The Commission indicated that when there were two competing rate-making alternatives, each of which had a degree of support, the Commission was bound to adopt that which would produce the lower rates to customers. The Commission went on to point out that lower rates would increase the consumption of natural gas and would stimulate the economy because of the need for expansion by natural gas companies. The Commission stated that their studies indicated that adequate supplies of natural gas were expected to be available well into the 21st Century.

In order to avoid what pipeline companies believed would be adverse financial effects from flow-through, several such pipeline companies discontinued using accelerated tax depreciation and reverted to straight-line tax depreciation. The increased taxes thereby payable would presumably be allowable in cost of service under the Federal Power Commission's actual taxes payable concept.

In 1966, the Federal Power Commission adopted a "mandatory" flow-through position in a rate case involving Midwestern Gas Transmission Company which had switched from accelerated tax depreciation with normalization to straight-line tax depreciation after the Alabama-Tennessee case. The Commission allowed in Midwestern's cost of service only those taxes which would have been payable had the Company used accelerated tax depreciation and flow-through. The effect was to allow in revenue requirements a lesser amount of tax expense than the Company actually had to pay for income taxes. This FPC decision was affirmed by the United States Court of Appeals for the Seventh Circuit and a writ of certiorari to the Supreme Court was denied. The FPC disputed management's prerogative to change its tax depreciation method when it would increase customer rates. The effect of such a disallowance was to force pipelines to continue to claim accelerated tax depreciation and to follow flow-through for accounting purposes.

By 1968, the California and the Connecticut commissions, which had both earlier adopted flow-through rate-making, extended the mandatory flow-through doctrine of the Midwestern case to subsidiaries of American Telephone and Telegraph Company. These subsidiaries had never elected to use accelerated tax depreciation methods. These commissions claimed that the AT&T subsidiaries should have adopted accelerated tax depreciation and, since the rate-making prescribed by the Commission was flow-through, customers' rates would be lower.

The Tax Reform Act of 1969 and the Transition to Normalization

While the Tax Reform Act of 1969 did not dictate to state regulatory commissions a rate-making treatment they should follow with respect to the tax effects of accelerated depreciation, the Act provided that:

(1) if a utility had not used accelerated depreciation prior to 1970 it would not be allowed to use accelerated tax depreciation in the future unless it normalized for rate-making and accounting purposes;

(2) utilities which had been using accelerated tax depreciation and were normalizing for accounting and rate-making purposes would not be allowed to use accelerated depreciation in the future unless they continued to normalize for accounting and rate-making purposes;

(3) companies which were currently on a flow through basis were allowed to continue on a flow through basis in the future. However, an election was offered to such companies by which they could elect, within 180 days, to be in a position where they would lose accelerated depreciation on future expansion additions unless they were normalizing for rate-making and accounting purposes with respect to such future expansion property additions.

In the 1969 hearings before the House Committee on Ways and Means on the Tax Reform Act, the Federal Power Commission took the position that accelerated tax depreciation should be repealed with respect to public utilities on the basis that utilities require no incentive to invest. After passage of the 1969 Tax Reform Act, the Federal Power Commission issued General Order 404 on May 15, 1970 which permitted utilities that made the "180 day election" described above to switch to normalization with respect to expansion property installed after 1969. In addition, the Commission also permitted pipeline companies to switch from flow-through to normalization with respect to property installed prior to 1970. The FPC's right to switch back to normalization on all property has been upheld in the Courts.

The Federal Power Commission has also moved in recent years toward full normalization for all income tax timing differences. For example, in 1969 the Commission amended its Uniform Systems of Accounts to provide for, among other matters, the allocation of income tax effects (both positive and negative) to utility operations, to other income and deductions and to extraordinary items. In 1971, the Commission issued rulemakings for comments (Dockets R-424, 446), which would amend its Systems of Accounts to require tax normalization for all timing differences between the books and the tax return unless the state regulatory authority follows flow-through rate making for the tax effect of a timing difference. The FPC in Order No. 530 in June 1975 adopted full normalization accounting, and in Order No. 530-B in July 1976, indicated that it would follow full normalization for rate-making purposes where it has rate jurisdiction.

The Tax Reform Act of 1969 and
<u>the Transition to Normalization (Cont'd)</u>

Companies in a number of flow-through states made the "180 day" election under the Tax Reform Act of 1969, and, as a result, switched prospectively from flow-through to normalization on new expansion property additions while running out earlier property additions on a flow-through basis.

Moving to a position of normalization from one of flow through is much more difficult than was the initial adoption of normalization, and it is, no doubt, these increased difficulties that have hindered flow-through Commissions, who are now recognizing the benefits of normalization, from moving toward normalization more rapidly. These increased difficulties include:

1. The fact that immediate, short-run increases in revenue requirements would be required at the very time when consumers' rates are rapidly escalating for other reasons.

2. Since lower tax deductions (and hence higher taxes payable) are affecting older vintages of property additions, adopting normalization on newer vintages has a compounding effect on current customers.

3. Regulatory or legal precedents have been set for flow-through in some instances where the courts have upheld the Commission's discretion to adopt flow-through.

4. Normalization rate-making is often explained in a manner that makes it seem unduly complicated, or that makes it appear that the consumer is being asked to pay for a future liability that may never occur.

With respect to normalization of capitalized overheads, there may be differences between companies within a state, where normalization has been allowed to one utility but not as yet to another. Similarly, in connection with phasing in full normalization, a utility and/or rate-making agency may adopt normalization on one overhead cost, such as interest, with the intention of adopting it for other costs such as pension costs and payroll taxes.

On the next page, the present status of normalization of tax costs for the 50 state commissions, the District of Columbia Commission and the FPC is summarized as follows:

The Tax Reform Act of 1969 and
the Transition to Normalization (Cont'd)

	Accelerated Depreciation	Capitalized Overheads		Investment Credit
		Interest	Other	
Normalization	43	23	28	46
Flow-Through	8	24	21	5
Other	1	5	3	1
	52	52	52	52

The present status of each of the 52 jurisidictions included above is shown on the succeeding three pages.

SUMMARY OF NORMALIZATION POLICIES BY STATE

Jurisdiction	Liberalized Depreciation	Investment Tax Credit	Construction Overheads: Interest Capitalized	Construction Overheads: Other Overheads
Alabama	N	N	N	N
Alaska	N	N		
Arizona	FT	FT	FT	FT
Arkansas	N	N	N	N
California	FT	FT	N	FT
Colorado	N	N	FT	FT
Connecticut	FT	N (4)	FT	FT
Delaware	N	N	N	N
District of Columbia	FT	FT	(2)	N
Florida	N	N	N	N
Georgia	N	N	FT	N
Hawaii	N	N		
Idaho	N	N	FT	N
Illinois	N	N	N	N
Indiana	N	N	N	N
Iowa	N	N	N	N
Kansas	N	N	FT	FT
Kentucky	N	N	FT	FT
Louisiana	N	N	N	N
Maine	N	N	FT	FT
Maryland	N	N	(2)	N
Massachusetts	N	N	N	FT

SUMMARY OF NORMALIZATION POLICIES BY STATE

Jurisdiction	Liberalized Depreciation	Investment Tax Credit	Construction Overheads: Interest Capitalized	Construction Overheads: Other Overheads
Michigan	N	N	FT	FT
Minnesota	N	N	FT	N
Mississippi	N	N	N	N
Missouri	N	N	N	N
Montana	N	N	N	N
Nebraska (3)				
Nevada	N	N (1)	N	N
New Hampshire	N	N (1)	N	FT
New Jersey	N (1)	N	N	N
New Mexico	N	N	FT	N
New York	FT	N (4)	N	FT
North Carolina	N	N	N	N
North Dakota	N	N	FT	FT
Ohio	FT	N	FT	N
Oklahoma	N	N	FT	N
Oregon	N	N	N	N
Pennsylvania	N	N	N	FT
Rhode Island	N	N	FT	FT
South Carolina	N	N	N	N
South Dakota	N	N	FT	FT
Tennessee	N	N	FT	FT
Texas	N	N	N	N

SUMMARY OF NORMALIZATION POLICIES BY STATE

Jurisdiction	Liberalized Depreciation	Investment Tax Credit	Construction Overheads: Interest Capitalized	Construction Overheads: Other Overheads
Utah	N (1)	N	FT	FT
Vermont	FT (1)	FT (1)	FT	FT
Virginia	N (1)	N (1)	FT	N
Washington	N (1)	N (1)	FT	FT
West Virginia	FT	FT	FT	FT
Wisconsin	N	N	FT	FT
Wyoming	N (1)	N (1)	FT	N
Federal Power Commission	N	N	N	N

(1) Commission policy may vary.

(2) CWIP is included in rate base and AFUDC is not capitalized.

(3) Nebraska does not have any investor-owned electric utilities.

(4) The "old" 4% investment tax credit is flowed through and the difference between the 10% investment tax credit and the 4% investment tax credit is normalized.

SOURCES:

- Duff & Phelps, Inc.
- 1975 Annual Report on Utility and Carrier Regulation, NARUC
- Telephone inquiries of commission staff members.

The Tax Reform Act of 1969 and
the Transition to Normalization (Cont'd)

As was discussed earlier, the accounting profession adopted full normalization in 1967 for all business enterprises. The Securities and Exchange Commission has also clearly set forth its position in favor of this accounting in its Accounting Series Release No. 85, dated February 29, 1960, and now fully supports the accounting set forth in APB Opinion No. 11. The SEC, in Accounting Series Release No. 149, dated November 28, 1973, required that flow-through amounts be set out and described in financial statements filed with the SEC. Thus the effects of flow-through have become even more identifiable to the readers of financial statements.

Public utilities must generally follow the same generally accepted accounting principles as all other businesses follow, and it is the position of the accounting profession that the same accounting principles apply to all business, both regulated and nonregulated. However, in deference to the legal powers of regulatory commissions, where commissions have not allowed utilities to recover in rates the additional current cost of using up tax depreciation deductions more rapidly, the AICPA provided an exception to the rules that apply to all other businesses. When Accounting Research Bulletin No. 44 was revised in

1958, the Committee on Accounting Procedures was faced with the fact that during the four years it had permitted flow-through for accelerated tax depreciation, some utilities and regulatory bodies had adopted flow-through. In deference to the legal authority of those regulatory bodies, the revised bulletin provided in paragraph 8 that:

> "8. Many regulatory authorities permit recognition of deferred income taxes for accounting and/or rate-making purposes, whereas some do not. The committee believes that they should permit the recognition of deferred income taxes for both purposes. However, where charges for deferred income taxes are not allowed for rate-making purposes, accounting recognition need not be given to the deferment of taxes if it may reasonably be expected that increased future income taxes, resulting from the earlier deduction of declining balance depreciation for income-tax purposes only, will be allowed in future rate determinations."

This exception, which provides that recognition of current cost can be ignored if it is clear that the cost will be recoverable out of future revenues, was extended to all tax timing differences in 1962. However, the accounting profession also states that ignoring a current cost "...is not appropriate when there is doubt, because of economic conditions or for other reasons, that the cost will be so recoverable." (Addendum to Opinion No. 2 of the Accounting Principles Board, dated December 1962.) The pronouncements of the AICPA and the Securities and Exchange Commission recognize the economic fact that there is a current cost which businesses must record for accounting purposes. The fact that a limited exception permits certain utilities currently to ignore and to postpone this cost does not change the economic fact that the cost of using up tax deductions more rapidly is a current cost.

The Investment Tax Credit Enacted in 1962

The accounting and rate-making aspects of the investment tax credit are discussed separately because the economics and the effects are different from those of the acceleration in the write-off of depreciation for tax purposes. The investment tax credit represents a permanent savings in taxes rather than a deferral. Although the reduction should be flowed through, the accounting and rate-making question is not one of flow-through but rather is a question as to which year's tax expense should be reduced and whether this reduction should be passed on to rate payers. The two accounting methods are to flow the tax reduction through to income over the life of the property giving rise to the investment tax credit (service life method) or to reduce tax expense in the current year by the full amount of the credit (initial year flow-through).

The Investment Tax Credit
Enacted in 1962 (Cont'd)

As shown on the tables on pages IV-48 to IV-50, a substantial majority of the rate regulatory commissions follow the service life method for the investment credit. Even in the few remaining flow-through states, certain utilities have elected under the tax law to follow the service life method. Because utilities are now predominantly following the service life method, significant additional cash flow and coverage ratio benefits from following the service life method in contrast to flow-through are not available, at least comparable to those available by including CWIP in the rate base or normalizing for tax timing differences. For that reason, comparisons of flow-through and the service life method are not included on the examples included in subsequent portions of this section. However, we are including the following discussion of the investment tax credit because it is an important tax incentive to electric utilities.

The legislative history of the investment credit has been a checkered one. The investment tax credit was initially enacted in 1962, revised in 1964, suspended in 1966, reinstated in 1967, terminated in 1969, reinstated as the job development credit in 1971, increased in 1975 and extended in 1976.

The Investment Tax Credit
Enacted in 1962 (Cont'd)

In addition, the qualified plant investment must have an estimated life of at least seven years. Reduced credits are allowed if the estimated life is between three and seven years, and no credit is allowed if the estimated life is under three years. If property is retired prior to the end of seven years the investment credit may be recaptured causing additional income taxes to be payable in the year the property is retired.

The Intent of Congress was clear from the statements by the Administration and by Congress at the time that the Investment Tax Credit was initially put into law in 1962. The job development credit in 1971 also indicated the intent that these tax reductions be an incentive for taxpayers to replace, modernize and expand the nation's productive facilities. For example, Secretary of the Treasury Dillon in testifying before the Senate Finance Committee stated:

> "The investment credit will stimulate investment in a number of ways. Because it reduces the net cost of acquiring depreciable assets, it increases the rate of profitability". (Hearing before the Committee on Finance, United States Senate, 87th Congress, 2nd Session, April 2, 1962, p. 83.)

The reports of the House Ways and Means Committee and the Senate Finance Committee in connection with both the 1962 Investment Credit and the 1971 Job Development Credit contain statements to the effect that the credit would reduce the cost of acquiring depreciable assets, would reduce the cost of capital, would assist in the modernization of the nation's production facilities and would assist in raising the capital required for modernization and expansion.

The incentive or benefit to the taxpayer was recognized as an increase in earnings over the productive lives of the facilities resulting from two factors:

1. By reducing the net cost of property and as a result reducing depreciation over the service-life of the property, and
2. By reducing the cost of capital since less capital would be required.

In 1964, in connection with revising the investment credit, Congress specifically enunciated certain rate-making requirements, stating that Federal regulatory agencies could not use the investment credit to reduce cost of service except over the service life of the related property. Congress extended the practice of including rate-making requirements in the tax law when it enacted the job development tax credit in 1971. Further, Congress provided that, except where a special election was made by a limited number of eligible companies, the benefits of the job development credit were to be shared between consumers and investors and that the consumers' share was to be passed on to them over the life of the property. The House Ways and Means Committee stated that: "...it is appropriate to divide the benefits of the credit between the customers of the regulated industries and the investors in the regulated industries". (House of Representatives Report No. 92-533, 92nd Congress, 1st Session.)

If the rate-making and the accounting are not in accordance with the irrevocable election made by the company pursuant to the 1971 Act, the taxpayer can be denied the investment credit. The four available elections were:

1. No portion of the investment credit may be used to reduce cost of service for rate purposes but the unamortized credit may be used to reduce rate base.

2. The rate-making authority could reduce the cost of service for no more than the annual amortization of the investment credit over the book life of the property giving rise to the credit, and the unamortized balance of the credit could not be used to reduce rate base.

3. Utilities which were flow-through for accelerated depreciation under the standards of the Tax Reform Act of 1969, were permitted to elect to continue to follow the initial year flow-through method for the investment credit.

4. Companies in the natural gas or steam heat business, if the appropriate regulatory agency declared there was a shortage of supply, would lose the credit if the rate-making body reduced cost of service or reduced the rate base.

Under the investment tax credit provisions of the law, taxpayers are allowed, as a credit against income taxes payable, a percent of the investment in qualified plant placed in service during the year. By the amendments made in 1975, the credit was expanded to include an election for the cost of construction work during each year. This acceleration of the credit is being phased in over a five-year period. For most taxpayers, the amount of the credit is generally 10% of the qualified investment. Prior to 1975, "public utility property" was defined to include electric, gas distribution, telephone, domestic telegraph, water and sewer property, and was limited to a credit of 4%. On other property it was limited to 7%. An additional credit of up to 1½% may be available if securities are contributed to a qualifying Employees Stock Ownership Plan (ESOP).

The credit allowed is limited to the income taxes payable for the year, if under $25,000. If the taxes payable exceed $25,000, the credit cannot exceed $25,000 plus 50% of income taxes payable in excess of $25,000. This credit limitation was increased for utilities in 1975 and 1976 to 100% of taxes otherwise payable. The 100% figure is now dropping back by 10% per year until it reaches the 50% level in 1981.

If because of this limitation, not all of the credit can be utilized to offset tax payments in the current year, the unused credits may be carried back three years and forward seven years to offset tax payments in any of the ten years.

In 1975, Congress increased the investment tax credit from 4% to 10% for most utilities, thereby increasing the investment credit by 6%. Congress required those companies, which had elected the third option above of flow-through, to elect either option 1, 2 or 3 for the additional 6% investment credit. Further, the rate regulatory agency could not order or pressure the utility to re-elect Option 3. Several utilities which had heretofore been flow-through for the investment credit elected Option 2 for the 6% additional credit.

The substantial majority of electric utilities are now on the service life amortization method for all or most of the investment credit, in most cases using the rate-making method covered by Option No. 2.

The Accounting Principles promulgated by the American Institute of Certified Public Accountants have permitted two alternative accounting methods. The preferable method is based on the premise that the investment tax credit represents, in essence, a reduction in the cost of property and so the credit should be deferred in the year realized and flowed through to income as the property giving rise to the credit is depreciated. The alternative accounting method is based on the premise that the investment credit is a reduction in the effective income tax rate for the current year and therefore it should be accounted for as a reduction in current tax expense.

Shortly after the investment credit was enacted, the accounting profession came out with Opinion No. 2, which provided that the investment credit should be amortized to income over the life of the related property. Certain accounting firms believed that the investment credit was in fact a reduction in current tax expense and refused to follow the investment credit accounting prescribed by Opinion No. 2. Some parties in government commented that, if the credit were amortized to income over a period of years, the stimulative effect on reported income, which some claimed that Congress and the President had intended to result from the investment credit, would be dissipated.

Approximately two years later, the Accounting Principles Board issued its Opinion No. 4 in which the Board expressed its preference for the amortization method but stated that either the amortization or the inital year flow through method was an acceptable method of accounting. At the time Opinion No. 11 concerning tax-timing differences was being considered in 1967, the initial exposure drafts of the Opinion included the provision permitting only the amortization method for the investment credit. These provisions, however, were dropped from Opinion No. 11 as released.

As stated earlier, the rate-making treatment for the investment credit has largely followed the accounting treatment of amortizing the credit to income over the service life rather than recognizing the investment credit as an immediate reduction in cost of service. Because of regulatory lag and the sizeable fluctuations in the annual amounts of the investment credits generated each year, rate-making on an immediate year flow-through basis is often very difficult. Those states which initially used the initial year flow-through method soon adopted a three or five-year average period for such flow-through as a means of smoothing out the revenue requirements from year to year. Because of the elections in the 1971 and 1975 tax laws, most electric utilities are now substantially on the service life method.

EXAMPLES OF REVENUE REQUIREMENTS

UNDER VARIOUS ASSUMPTIONS

Assumptions for Exhibits IV-1, IV-2 and IV-3

Exhibits IV-1, IV-2 and IV-3 have been prepared on the basis of the following assumptions:

a. $1,100,000 property addition

b. 25-year life, straight-line depreciation used for book purposes

c. No retirement dispersion; no salvage or cost of removal

d. Income tax rate of 50%

e. Sum-of-the-years digits method of accelerated depreciation used for tax purposes

f. A rate of return of 8.9%, based on the following assumptions as to the cost of capital

	Capitalization Ratios	Cost of Capital	Weighted Cost of Capital
Debt	51.1%	6.64%	3.39%
Preferred Stock	13.2	7.33	.97
Common Equity	35.7	12.72	4.54
Total	100.0%		8.90%

g. The higher rate of return, based on the 50 basis point increase in the cost of capital where flow-through is used for accounting and rate-making purposes, is computed as follows:

	Capitalization Ratios	Cost of Capital	Weighted Cost of Capital
Debt	51.1%	7.14%	3.65%
Preferred Stock	13.2	7.88	1.04
Common Equity	35.7	13.22	4.71
Total	100.0%		9.40%

Discussion of Exhibits IV-1, IV-2, and IV-3

Exhibit IV-1 illustrates the effect of the various accounting and rate-making methods of treating tax-timing differences on revenue requirements for depreciation, return and income taxes. This exhibit sets forth the revenue requirements under conditions (1) of using straight-line book and tax depreciation, (2) of using accelerated tax depreciation with normalization rate-making, (3) of using accelerated tax depreciation with flow-through rate-making assuming the same rate of return as under normalization, and (4) of using accelerated tax depreciation with flow-through rate-making assuming a rate of return .5% higher than that used with normalization. As set forth in the report of Duff and Phelps, Inc. in Section VI, the cost of capital could range up to .5% higher for flow-through companies.

The following summarizes the components of the annual revenue requirements shown on the Exhibit under each of the rate-making methods illustrated.

	Revenue Requirements for Depreciation, Return and Income Taxes			
	Total	Depreciation	Return	Income Taxes
Normalization	$2,764,343	$1,100,000	$1,027,951	$636,392
Straight-Line	3,081,363	1,100,000	1,223,750	757,613
Flow Through -				
8.9% rate of return	3,081,363	1,100,000	1,223,750	757,613
9.4% rate of return	3,191,363	1,100,000	1,292,500	798,863

SUMMARY OF REVENUE REQUIREMENTS FOR DEPRECIATION, RETURN AND INCOME TAXES WITH NORMALIZATION AND WITH FLOW-THROUGH RATE-MAKING WHEN STRAIGHT-LINE OR ACCELERATED TAX DEPRECIATION IS USED

		Accelerated Tax Depreciation		
			Flow-through	
Year	Straight-Line Tax and Book Depreciation (1)	Normalization (2)	8.9% Rate of Return (3)	9.4% Rate of Return (4)
1	$ 199,339	$ 197,876	$ 158,724	$ 167,348
2	192,999	188,731	155,768	164,040
3	186,658	179,830	152,812	160,732
4	180,318	171,173	149,856	157,424
5	173,978	162,760	146,901	154,117
6	167,637	154,591	143,945	150,809
7	161,297	146,665	140,989	147,501*
8	154,956	138,984	138,033	144,193
9	148,616	131,546	135,078*	140,886
10	142,276	124,352	132,122	137,578
11	135,935	117,402	129,166	134,270
12	129,595	110,696	126,210	130,962**
13	123,255	104,233	123,255	127,655
14	116,914	98,015	120,299**	124,347
15	110,574	92,040	117,343	121,039
16	104,233	86,309	114,387	117,731
17	97,893	80,823	111,431	114,423
18	91,553	75,580	108,476	111,116
19	85,212	70,580	105,520	107,808
20	78,872	65,825	102,564	104,500
21	72,531	61,314	99,608	101,192
22	66,191	57,046	96,653	97,885
23	59,851	53,022	93,697	94,577
24	53,510	49,243	90,741	91,269
25	47,170	45,707	87,785	87,961
Total	$3,081,363	$2,764,343	$3,081,363	$3,191,363
Present worth at beginning of year 1 of revenue requirements -				
Discounted at 8.9%	$1,544,368	$1,420,278	$1,399,858	$1,460,351
Discounted at 7.21%, net-of-tax	$1,718,499	$1,575,366	$1,580,252	$1,646,732

* First year where flow-through revenue requirements exceed normalization

** First year where flow-through revenue requirements exceed straight line

Assumptions

- $1,100,000 Property additions
- 25-year life, straight-line depreciation for book purposes
- No retirement dispersion, no salvage or cost of removal
- Income tax rate of 50%
- Sum-of-the-years digits method of accelerated depreciation used for tax purposes

Discussion of Exhibits IV-1, IV-2, and IV-3 (Cont'd)

Exhibit IV-2 shows the computation of the taxes deferred each year which occurs when an accelerated method of depreciation is adopted for tax purposes. As shown in Column 3, in the early years, accelerated depreciation (Column 2) exceeds straight-line depreciation (Column 1), but starting in year 14, accelerated depreciation is lower than straight-line depreciation.

The tax effect at a 50% tax rate is shown in Column 4. The amounts in Column 4 are the amounts by which tax payments are reduced in the early years and increased in the later years with respect to this property addition. Under normalization accounting, this is the amount recorded as a provision for deferred taxes. Column 5 is the balance at the end of each year in the accumulated deferred tax reserves. This balance represents the accumulated funds made available by the premature use of tax deductions which postpone the taxes otherwise payable. The time value from the use of these funds is ordinarily passed back to the consumer by deducting the balance of accumulated deferred income taxes from rate base or from the capital structure since it is interest-free capital.

Discussion of Exhibits IV-1, IV-2, and IV-3 (Cont'd)

Exhibit IV-3 sets forth the degree to which there is a recovery of capital and capital related costs over each of the 25 years of life assumed in this example. The total amount that must be recovered for capital and capital related costs over the life of the property is shown on the first line and is equivalent to revenue requirements for depreciation, return and income taxes over the 25-year life of the property. As shown in Columns 3 and 4, normalization provides the most rapid method of cost recovery. For example, after year 10, only 42.2% of the cost remains to be recovered in the future under normalization, while 52.8% and 52.2% remains to be recovered in the future under flow-through rate-making at an 8.9% and 9.4% rate of return, respectively (Columns 6 and 8) and 44.5% remains to be recovered using straight-line tax depreciation (Column 2). Congress stated that one of the purposes of allowing accelerated depreciation methods was to speed up the recovery of capital. The unrecovered cost and percentages (Columns 3 and 4) under normalization are less than those under straight-line tax depreciation (Columns 1 and 2) and so normalization achieves this goal. Under flow-through rate-making the unrecovered cost and percentages (Columns 5, 6, 7, and 8) are greater than under straight-line tax depreciation (Columns 1 and 2), so flow-through rate-making slows down rather than speeds up the recovery of capital and capital related costs.

Discussion of Exhibits IV-1, IV-2 and IV-3 (Cont'd)

The following table sets forth the cash flow for the first five years of property life under the assumptions stated on page IV-62 which were the basis of Exhibits IV-1, IV-2 and IV-3.

INTERNALLY GENERATED CASH FLOW

		Accelerated Tax Depreciation		
			Flow-Through	
Year	Straight-Line Tax Depreciation	Normalization	8.9% Rate of Return	9.4% Rate of Return
1	$ 61,820	$ 81,960	$ 61,820	$ 62,790
2	61,093	79,218	61,093	62,023
3	60,365	76,505	60,365	61,256
4	59,638	73,820	59,638	60,490
5	58,911	71,163	58,911	59,723
	$301,827	$382,666	$301,827	$306,282
Percent of 9.4% flow-through	99%	125%	99%	100%

As can be seen, cash flow under normalization is 25% higher than under the other methods during the five years when the cash is most difficult to secure. Since $220,000 of the cash flow represents depreciation, the cash flow related to return and income taxes is 89% greater under normalization than under flow-through with a 9.4% cost of capital. For a single unit of property, cash flow declines in later years under normalization in comparison to flow-through, which is consistent with lower rates to consumers in the later years under normalization.

As set forth below, coverage ratios under normalization accounting exceed those under flow-through by a substantial margin.

INTEREST COVERAGE RATIOS

		Accelerated Tax Depreciation		
			Flow-Through	
Year	Straight-Line Depreciation	Normalization	8.9% Rate of Return	9.4% Rate of Return
1	4.25	4.25	3.14	3.19
2	4.25	4.25	3.19	3.23
3	4.25	4.25	3.24	3.28
4	4.25	4.25	3.30	3.34
5	4.25	4.25	3.37	3.40

Among the conclusions that can be drawn from Exhibits IV-1, IV-2 and IV-3 along with the accompanying tables are the following:

1. The benefits of adopting accelerated tax depreciation are illustrated by comparing Columns 1 and 2 on Exh. IV-1:

   - Column 1 illustrates the rate-making situation under the conditions existing before Congress granted this tax incentive.

   - Column 2 illustrates the cost reduction to consumers over the life of the property when this incentive is elected and normalized.

- The difference between Columns 1 and 2 represents the effect of passing on the time value benefits of accelerated depreciation to consumers.

2. Revenue requirements (Exh. IV-1) are the same under accelerated tax depreciation with flow-through (Column 3) and straight-line tax depreciation (Column 1) if the rate of return is not increased for the higher cost of money.

3. If the higher cost of capital is considered, revenue requirements under flow-through (Exh. IV-1, Column 4) are higher than if accelerated depreciation is not elected (Exh. IV-1, Column 1).

4. Under flow-through, as illustrated in Exh. IV-1, revenue requirements are lower in the early years and higher starting in Year 14 than if accelerated depreciation is not elected. Total revenue requirements, when the higher cost of capital is considered, are greater than when accelerated depreciation is not elected starting in Year 12.

5. Normalization rate making (Exh. IV-1, Column 2) produces the lowest revenue requirements over the life of the property, and is lower on a present worth basis when the real cost of capital under flow-through is considered or approximately equivalent when the revenue requirements are discounted at the net of tax rate of return. Considering the higher cost of capital, flow-through is higher starting in Year 7.

6. As shown on page IV-63, normalization has the effect of reducing overall revenue requirements for depreciation, return, and income taxes because of a lower rate base. This occurs because both the return requirement and the related income taxes are lower.

7. As shown on Exh. IV-3, recovery of capital and capital related costs are delayed under flow-through and speeded up under normalization. All other things being equal, a slower recovery indicates securities having greater risk.

8. During the first five years, normalization produces a substantial improvement in cash flow in contrast to any of the other rate-making methods discussed, and a substantial improvement in coverage ratios in contrast to flow-through.

Discussion of Exhibit IV-4

Columns 1 and 2 of Exhibit IV-4 set forth the total revenue requirements for depreciation, return and income taxes under normalization accounting using an 8.9% rate of return, and under flow-through accounting using a 9.4% rate of return, when several tax-timing differences are assumed. The following assumptions are made in connection with Exhibit IV-4:

1. $1,100,000 property addition
2. 25-year life, straight-line depreciation for book purposes
3. No retirement dispersion, no salvage or cost of removal
4. Income tax rate of 50%
5. Tax-timing differences:
   - Sum-of-the-years digits method of accelerated tax depreciation used
   - $100,000 of overhead costs capitalized for accounting and rate-making purposes and deducted for tax purposes in Year 1.
   - ADR/class life of 20 years
6. Rates of return of 8.9% for normalization and 9.4% for flow-through derived in the same manner as for Exhibit IV-1

For a single property addition, the revenue requirements for depreciation, return and income taxes under normalization accounting are $2,586,621 over the 25-year life of the property, while the revenue requirements under flow-through accounting are $3,191,363 or 23% higher. On

Discussion of Exhibit IV-4 (Cont'd)

Exhibit IV-1, where the only timing difference was accelerated tax depreciation, the corresponding percentage increase in revenue requirements under flow-through is 15% greater.

In addition, the following table compares certain of the revenue requirements between Exhibit IV-1 and Exhibit IV-4:

	Normalization	Flow-through at 9.4% rate of return
Single timing difference (Exhibit IV-1)	$2,764,343	$3,191,363
Multiple timing differences (Exhibit IV-4)	$2,586,621	$3,191,363

Normalization produces the lowest revenue requirements when multiple timing differences are used as compared to the same flow-through revenue requirement regardless of whether single or multiple timing differences are used. The additional reduction in the normalization revenue requirement occurs because the additional timing differences create a larger reserve for deferred taxes which is deducted from rate base when determining the amount of return. The lower rate base produces a lower dollar amount of return which also has the effect of reducing the amount of income taxes which must be collected in order to produce the required return. Thus, the existence of additional tax timing differences makes the

SUMMARY OF REVENUE REQUIREMENTS WITH NORMALIZATION AND WITH FLOW-THROUGH RATE-MAKING FOR THE EFFECT OF USING ACCELERATED DEPRECIATION, USING SHORTER TAX LIVES AND DEDUCTING CERTAIN CAPITALIZED OVERHEAD COSTS

	Single Property Addition		6% Compound Growth	
Year	Normalization 8.9% Rate of Return (Col. 1)	Flow-Through 9.4% Rate of Return (Col. 2)	Normalization 8.9% Rate of Return (Col. 3)	Flow-Through 9.4% Rate of Return (Col. 4)
1	$ 193,891	$ 56,725	$ 193,891	$ 56,725
2	180,428	154,795	385,952	214,924
3	170,910	152,864	580,019	380,683
4	161,736	150,934	776,557	554,457
5	152,905	149,004	976,054	736,729
6	144,417	147,072*	1,179,035	928,004
7	136,272	145,142	1,386,048	1,128,827
8	128,470	143,211	1,597,681	1,339,763
9	121,011	141,281	1,814,553	1,561,435
10	113,895	139,351	2,037,321	1,794,472
11	107,122	137,420	2,266,684	2,039,560
12	100,693	135,490	2,503,377	2,297,420
13	94,606	133,560	2,748,186	2,568,824
14	88,863	131,629	3,001,941	2,854,579
15	83,462	129,699	3,265,516	3,155,551
16	78,405	127,767	3,539,854	3,472,660
17	73,691	125,837	3,825,935	3,806,839
18	69,320	123,907	4,124,813	4,159,152 *
19	65,292	121,976	4,437,593	4,530,672
20	61,607	120,046	4,765,455	4,922,553
21	58,265	118,115	5,109,648	5,336,018
22	55,095	111,423	5,471,323	5,767,593
23	51,925	104,731	5,851,527	6,218,401
24	48,755	98,038	6,251,373	6,689,501
25	45,585	91,346	6,672,043	7,182,209
	$2,586,621	$3,191,363	$74,762,379	$73,697,551

*First year where flow-through revenue requirements exceed normalization

Assumptions -

- $1,100,000 property addition
- 25-year life, straight-line depreciation for book purposes
- No retirement dispersion, no salvage or cost of removal
- Income tax rate of 50%
- Sum-of-the-years digits method of accelerated tax depreciation used
- $100,000 of capitalized overheads deducted in Year 1
- ADR/class life of 20 years

Discussion of Exhibit IV-4 (Cont'd)

use of normalization accounting rather than flow-through accounting beneficial to the consumer over the life of the property.

The internal cash generation during the first five years for the single property addition is $447,690 under normalization and only $306,282 under flow-through. Thus, normalization increases cash flow by 46%. This contrasts to a 25% increase using the assumptions in Exhibit IV-1 where the only timing difference was accelerated tax depreciation. This also demonstrates that additional tax-timing differences produce additional benefits to consumers in lower total revenue requirements (for depreciation, return and income taxes) and increased cash flow under normalization rate-making while under flow-through rate-making, particularly when the resulting higher cost of capital is also considered, reduced benefits to consumers and reduced cash flow are produced.

Exhibits IV-1 and Columns 1 and 2 of Exhibit IV-4 were based on property additions in a single year. This enables a true comparison of the effects of flow-through and normalization so that the substantive differences can be identified and studied. Combining a number of years or vintages would obscure the turn around effect that occurs in subsequent years when tax deductions decline. If many vintages of additions are grouped without a proper analysis

Discussion of Exhibit IV-4 (Cont'd)

of the cost applicable to each vintage, the fact that there are higher taxes applicable to older property (which should have been charged to prior consumers) becomes obscured by tax postponements derived from new property. The Uniform Systems of Accounts of the Federal Power Commission, the NARUC, and most state commissions recognize this as they require that the accumulated deferred income tax reserves be maintained by vintage year. The regulations of the Internal Revenue Service also require vintage year accounting for the tax incentives described in this Section.

Columns 3 and 4 of Exhibit IV-4 show the effect of 6% compound growth of property additions on revenue requirements for depreciation, return and income taxes under normalization and flow-through using the same assumptions as Columns 1 and 2. Using the 6% compound growth rate, the crossover point is obscured until the 18th year in the life of the property. This is the obscurity or lack of a true comparison resulting from the combining of a number of years or vintages which is explained on page IV-75. If Columns 3 and 4 were carried through to the 27th year, they would show that accumulated revenue requirements under normalization exceeded those under flow-through.

Discussion of Exhibit IV-4 (Cont'd)

Even with the obscurity of combining vintages, normalization shows up with lower long-run cost to consumers beginning in the 18th year. After this year, revenue requirements will always be lower with normalization.

The cash flow generation with 6% annual growth rate and normalization would exceed the cash flow under flow-through by 56% in the first six years as shown below.

INTERNALLY GENERATED CASH FLOW

	Accelerated Tax Depreciation	
Year	Normalization 8.9% Rate of Return	Flow-Through 9.4% Rate of Return
1	$ 136,814	$ 62,789
2	227,912	128,579
3	321,001	197,459
4	416,245	269,890
5	513,809	345,804
6	613,871	425,507
	$2,229,652	$1,430,028

The cash benefits of normalization would continue under continued growth in the property additions.

The coverage ratio effect with growing additions are shown below for the same six years. The continuing coverage ratio benefits of normalization would continue so long as property additions continue so that improved coverage ratios would coincide with the period of extensive financing

Discussion of Exhibit IV-4 (Cont'd)

requirements. That is the period in which cash flow and coverage ratios are particularly critical.

INTEREST COVERAGE RATIOS

Year	Accelerated Tax Depreciation	
	Normalization 8.9% Rate of Return	Flow-Through 9.4% Rate of Return
1	4.25	.33
2	4.25	1.59
3	4.25	2.03
4	4.25	2.27
5	4.25	2.43
6	4.25	2.54
	====	====

When there are continuing or growing additions to the property account, the property account grows, the depreciation reserve grows and the long-term debt grows. In addition, when accelerated tax depreciation is used with normalization, the deferred income tax reserve grows parallel to the cost of property which has been stripped of its tax reducing ability. The fact that the deferred tax reserve may grow is used by those who support flow-through as a basis for claiming that the deferred tax reserve will never be needed. They assert that postponements of tax payments related to newer property will always exceed any higher taxes due as a result of earlier amortization of older property. They then assert that a provision for deferred taxes need not be recorded as a cost.

Discussion of Exhibit IV-4 (Cont'd)

The assertion that a provision for deferred taxes need not be recorded represents an incomplete analysis. First, it fails to consider that these lower tax payments are achieved by continually borrowing tax depreciation deductions from the future to offset the currently higher tax payments related to older property; it is achieved in a sense by "robbing Peter to pay Paul." Under the flow-through method of rate making, the current consumer receives the current reductions in tax payments, but the cost of producing those tax reductions - the additional cost incurred where tax deductions are used up more rapidly - is ignored on the speculation that this cost can be collected from future consumers. Consumers in the future would be charged for depreciation including the consumption of the tax reducing capacity of the property, but would not receive credit in rates for the tax reductions themselves as these credits would already have been passed on to consumers during prior years. These future consumers, although precluded from receiving the tax reductions associated with the depreciation expense included in their rate-making formula, would allegedly be able to obtain tax reductions resulting from assumed future property additions, the depreciation of which would be assessed against consumers still further in the future.

Discussion of Exhibit IV-4 (Cont'd)

This same reasoning was used in the earlier part of the century to justify omission of costs under the now discredited retirement method of accounting for property. While growth may have hidden the effect of this lapping process in the past, the adverse effect on revenue requirements when this lapping process ends will become most apparent if utilities subject to flow-through rate-making are forced to reduce the level of their construction programs. Since the tax reductions related to capitalized overhead costs would immediately decline and since the tax reductions related to accelerated depreciation would soon decline, increased taxes would soon lead to an increase in revenue requirements to consumers. The then current consumers would be charged higher rates because of a decline in the construction of facilities to provide future service.

Any time the capacity to reduce income taxes is being used up, a cost is being incurred whether it be a growth company, a stable company, or a declining company, and whether it be an industrial company, a commercial company, or a public utility. Capital consumption incurred by any company when it uses up its tax deductions constitutes a cost which must be recorded if costs for a period, earnings statements and balance sheets are to be correctly stated and meaningful.

Single Unit Addition by a Utility

Assumptions

Exhibit IV-5 demonstrates the effect on revenue requirements for depreciation, return and income taxes resulting from the normalization and the flow-through for rate-making purposes of a major tax timing difference (debt interest which is capitalized on the books and expensed for tax purposes). This timing difference is based on the budgeted cost of a major fossil-fueled, steam generation facility (consisting of two units) presently under construction by an investor owned electric utility located in the Eastern United States. The direct expenditures are estimated as follows (in thousands):

Year	Unit No. 1	Unit No. 2	Total
1971	$ 35	$ -	$ 35
1972	914	-	914
1973	5,533	-	5,533
1974	27,024	10,596	37,620
1975	79,773	25,424	105,197
1976	37,980	73,315	111,295
1977	14,120	32,817	46,937
1978	8,698	15,380	24,078
1979	1,500	1,891	3,391
	$175,577	$159,423	$335,000

The overall rate of return used in the calculations for normalization is based on the Company's approximate capital structure and cost of capital allowed by the state regulatory commission in the most recent rate case:

	Capital Structure	Cost Rate	Rate of Return
Debt	51.1%	6.64%	3.39%
Preferred	13.2	7.33	.97
Common equity	35.7	12.72	4.54
	-----		----
	100.0%		8.90%
	=====		====

Because of the higher capital cost where tax timing differences are flowed through for rate-making purposes, the revenue requirements on a flow-through basis are computed at 9.4% as well as at 8.90%, the rate of return used when normalization rate making is followed.

For purposes of simplification, the calculations assume an income tax rate of 48% and no investment tax credit being generated. In addition, the depreciation expense for book accounting and income tax purposes is assumed to be at a rate of 3.6% on a straight-line basis. Ordinarily, investment tax credits and accelerated depreciation would be utilized regardless of the rate-making treatment of debt interest capitalized.

The resulting revenue requirements for return, income taxes and depreciation as calculated using the normalization method of accounting for income taxes are summarized in Column 2 of Exhibit IV-5. Columns 3 and 4 show the increase (or decrease) in revenue requirements based on flow-through rate making and normalization rate-making by year.

Single Unit Addition by a Utility (Cont'd)

Total revenue requirements over the construction period and operating life of this project are summarized below:

	Total	Increase Over Normalization: Amount (in thousands)	%
Normalization	$1,451,587		
Flow Through			
8.9%	$1,513,713	$ 62,126	4.3%
9.4%	$1,599,794	$148,207	10.2%

Other cost of service elements, such as operating and maintenance expenses, have been excluded, since they would have the same impact under both methods.

The small negative numbers on lines 2 through 9 of Column 2 reflect the time value of the deferred income tax reserves which would be accumulated as a result of normalizing the capitalized interest. Since these accumulated deferred taxes are used to reduce rate base, there is a reduction in the annual revenue requirements which is passed on directly to the current consumer.

The larger negative numbers on lines 2 through 9 of Columns 3 and 4 illustrate the negative effect on revenue requirements of the rate-making practice of flowing through the income tax reductions arising from the debt interest capitalized. The results in Columns 3 and 4 highlight the fact that under flow-through rate making, the customer in 1971-1979 is not currently paying for the capitalized interest costs, since in this example, the utility is not allowed a return on construction work in progress. However, under flow-through rate-making, the benefits of the tax deductions created by this interest are being passed on to current consumers as a reduction in rates.

Exhibit IV-5 demonstrates that under flow-through rate-making, revenue requirements to current consumers are reduced during the construction period because of receiving the tax deductions related to the capitalized interest. After the plant is placed in operation, the consumers, starting in 1980, would pay for the capitalized interest (as depreciation) but would not receive the offsetting tax reducing benefits which were passed through to consumers in prior years.

Since, as demonstrated earlier, cash flows are decreased under flow-through, the current customers are receiving the benefit of reduced revenue requirements at the very time cash flows are essential to finance the substantial construction expenditures involved in this project.

National Effect An estimate of the effect on revenue requirements of converting to full normalization for rate-making purposes by all investor-owned utilities requires many assumptions and cannot be precise. However, the first step to quantify the impact is to estimate the level of income tax-timing differences being accounted for under flow-through currently. Exhibit IV-6 sets forth the estimated amount of flow-through to date. For 1975 the amount is estimated to be $949 million (Column 4). Exhibit IV-6 was compiled using data reported annually in the Federal Power Commission's "Statistics of Privately Owned Electric Utilities in the United States." The estimates on Exhibit IV-6 show that for the period from 1954 through 1975 investor owned electric utilities in the U.S. have reduced their reported income tax expense by approximately $8,782 million (line 18, Column 4) as a result of various tax-timing differences.

Amounts in Column 2 represent the reported income tax expense for the investor owned electric utilities. Column 3 represents the estimated income tax expense which would have been reflected on a fully normalized basis assuming an income tax rate of 48%.

The amounts for each year reflected in Column 3 were calculated by reducing reported pretax operating income for investor owned utilities by the reported interest expense (less the estimated interest capitalized) and applying the

National Effect (Cont'd)

current Federal statutory income tax rate of 48% to the balance.

As reflected on line 17, Column 4, the estimated reduction in the reported income tax provision totaled approximately $949 million in 1975.

The appendix to the Summary Letter herein includes an estimate of the revenue requirement effect in 1975 and in 1985 of normalization in contrast to flow-through for (1) the portion of the investor owned companies which are now normalizing and (2) the portion of the investor owned companies which are now using flow-through. In summary these results are:

	Net Revenue Requirement Effect of Normalization (In Millions)	
	1975	1985
Present Normalization	$ 618	$(1,134)
Present Flow-Through	1,415	784

NATIONAL EFFECT

COMPARISON OF REPORTED INCOME TAX EXPENSE

TO ESTIMATED INCOME TAX EXPENSE ON A FULLY NORMALIZED BASIS
(In Millions)

Line No.	Year (Col. 1)	Reported Income Tax Expense (Col. 2)	Estimated Fully Normalized Income Tax Expense (Col. 3)	Fully Normalized Expense Over Reported Income Tax Expense (Col. 4)
1	Prior to 1960	$ 6,810	$ 7,237	$ 427
2	1960	1,410	1,528	118
3	1961	1,522	1,630	108
4	1962	1,560	1,757	197
5	1963	1,580	1,834	254
6	1964	1,673	1,928	255
7	1965	1,669	2,027	358
8	1966	1,736	2,144	408
9	1967	1,727	2,226	499
10	1968	1,907	2,364	457
11	1969	1,853	2,455	602
12	1976	1,477	2,102	624
13	1971	1,448	2,198	751
14	1972	1,640	2,483	843
15	1973	1,740	2,705	965
16	1974	1,676	2,643	967
17	1975	2,583	3,532	949
18	Total	$34,011	$42,793	$8,782

Source: Federal Power Commission "Statistics of Privately Owned Electric Utilities."

Summary of the Benefits of Normalization

The benefits of normalization accounting and rate-making, in contrast to the use of flow-through, include the following:

1. When normalization accounting is allowed for rate-making purposes, the internal cash flow and pretax coverage ratios are improved. This is particularly important under today's conditions of high interest rates and large construction programs.

2. Flow-through accounting (in contrast to normalization accounting) is considered by most knowledgeable investors to produce earnings that are of lower quality. Flow-through accounting cannot be followed by industrial and commercial companies with which electric utilities must compete for financing because it meets neither the standards of the accounting profession nor the standards of the Securities and Exchange Commission.

3. The establishment of deferred tax reserves which will be amortized to income in future periods provides greater assurance to investors that their investment will be recovered. In the meantime, the availability of these deferred tax reserves as a source of interest-free funds reduces the amount of outside capital which must be serviced.

Summary of the Benefits
of Normalization (Cont'd)

4. Flow-through accounting is premised on the continuation in the tax regulations of provisions which permit more rapid write-offs of property costs for tax purposes than on the books. Deferred tax accounting requires no such risky speculation. If the tax laws or regulations were to change to disallow or postpone some of these deductions, flow-through companies could be faced with large, immediate tax payments with no reserves available to offset the payments.

5. Under normalization, a utility is compensated for using up its capital.

6. All of the above described factors improve the capital attracting ability of utilities which follow normalization rate-making and accounting and should permit them to obtain capital at more favorable rates.

7. Without rate-making steps such as the adoption of greater normalization, serious questions can be raised as to the ability of the electric industry to meet the future construction needs of its customers.

Summary of the Benefits
<u>of Normalization (Cont'd)</u>

8. Normalization fulfills the critical need to price utility services on a full and whole cost basis with no omissions or exclusions. If utility services are erroneously accounted for and priced, the results can lead to a misallocation of resources. The experience during the last twenty years in the natural gas industry demonstrates the importance of setting rates that include all economic costs.

EXPLANATION OF THE ARGUMENTS FOR AND AGAINST NORMALIZATION

Whether Taxes Can Be Normalized Only if There Is a Tax Deferral Rather Than a Permanent Tax Savings; and

Whether, so Long as the Deferred Tax Account Is Not Declining, the Utility Is Realizing a Permanent Tax Savings Which Requires Consumers to Pay for Taxes That Will Never Be Paid by the Utility

These issues are one in substance: whether the current reduction in Federal income taxes payable represents a "permanent tax savings" because the tax reductions will never be "paid by the utility." If an item having a tax effect is such that the tax effect is actually saved and the taxes never have to be paid, then a provision for such a payment need not be provided and current tax expense (and, hence, customers' rates) can be reduced currently. Consistent with reducing expense (and rates) for the effects of a true saving, if the deferred tax provision represents a postponement of tax payments to the future when they will have to be paid, it is necessary to charge such a provision to current customers rather than to future customers.

The largest recurring sources of deferred taxes are the accelerated methods of depreciating utility property for Federal income tax purposes. Because the write-offs of property cost for tax purposes exceed the write-offs (depreciation) recorded on the books and allowed for rate

Whether Taxes Can Be Normalized Only if There Is a Tax Deferral Rather Than a Permanent Tax Savings; and

Whether, so Long as the Deferred Tax Account Is Not Declining, the Utility Is Realizing a Permanent Tax Savings Which Requires Consumers to Pay for Taxes That Will Never Be Paid by the Utility (Cont'd)

purposes there is a postponement of current tax payments to future periods.

When an analysis is made of a single unit of property, it is seen that the lower tax payments in earlier years are offset by higher tax payments in later years, since the aggregate amount of depreciation allowable is not changed by the election to use a faster write-off method. By looking at a single unit, it can be seen that the allowable tax deductions remain the same and that there is a deferral in the payment of taxes rather than a tax savings.

However, most utilities have continually added property and the dollars of property additions are likely to increase because of growth and because of inflation. While such growth is projected to continue for the electric utilities in the aggregate, even without considering inflation, it may not continue for a specific utility company. If property additions do continue at an increasing or constant level, and the tax law is not changed, taxes payable in the aggregate will be less than tax expense when a provision for deferred taxes is recorded, and the reserve for deferred taxes will not decline. This is the basis of the position that the deferred tax reserve is "not needed" and, that the provision for deferred taxes should not be charged to current customers.

It is also argued that the provision for deferred taxes does not represent a cost, since these taxes are not paid and are not expected to be paid. Therefore, it would be wrong to collect cash revenues from customers to cover the "phantom" taxes which are never to be paid, and the only taxes that should be allowed to be collected from customers are the "actual taxes payable" with respect to a year.

In summary, the contention is that a provision for deferred taxes should not be allowed for rate-making purposes because:

- "Phantom" taxes are not a cost;
- The deferred taxes will never have to be paid as long as the deferred tax reserve continues to increase; and

Whether Taxes Can Be Normalized Only if There Is a Tax Deferral Rather Than a Permanent Tax Savings; and

Whether, so Long as the Deferred Tax Account Is Not Declining, the Utility Is Realizing a Permanent Tax Savings Which Requires Consumers to Pay for Taxes That Will Never Be Paid by the Utility (Cont'd)

- Revenue requirements will be higher for many years; therefore, normalization is inconsistent with the regulatory concept of charging the lowest possible rates.

Each of these three arguments against normalization is explained in the succeeding paragraphs.

"Phantom" Taxes Are Not a Cost

The critical question to be answered is whether the provision for deferred taxes represents a current cost. If it does, then it should be allowed for rate purposes and the fact that the deferred tax reserve continues to rise is no basis for ignoring the cost. If, on the other hand, the deferred tax provision is not a cost, then there is little basis for allowing it in cost of service even as a contingency for higher tax payments in the future.

To determine whether deferred taxes are a cost, it is necessary to understand exactly what happens when property costs are written off as depreciation for book and tax purposes.

"Phantom" Taxes
Are Not a Cost (Cont'd)

The portion of the depreciable cost of an asset allocated to each period should be that portion of the asset that is used up in providing service, producing revenues or reducing costs. Each asset of a tax paying electric utility has two basic capacities--its physical capacity to produce, transmit and distribute electricity, and its capacity to reduce income taxes otherwise payable. In the electric utility industry it is the general practice to amortize (or depreciate) the asset's capacity to provide electric service on a straight-line basis over the asset's estimated useful life.

The provision for straight-line depreciation as a current cost for accounting and rate-making has not been questioned in recent years, even though the depreciation reserve continues to grow and depreciation provisions are likely to exceed retirements for the foreseeable future.

When straight-line tax depreciation is used up, the capacity of the asset to reduce income taxes is also used up on a straight-line basis.

However, when accelerated tax depreciation methods (or other tax write-offs which are more rapid than those used on the books) are used, the capacity to reduce income taxes is used up more rapidly and this more rapid consumption of this capacity to reduce income taxes represents an additional cost, as surely as would a shortening of the life over which the asset would assist in providing electric service. This cost can be recorded as additional depreciation expense, as is done by Wisconsin electric utilities and by companies which record accelerated depreciation on their books; or this cost can be recognized as a provision for deferred taxes. Recognizing this cost in the form of a provision for deferred taxes is provided for in the pronouncements of the accounting profession and in most uniform systems of accounts prescribed by regulatory commissions for electric utilities. Irrespective of whether the cost is recorded as additional depreciation or a provision for deferred taxes, the effect on revenue requirements, net income and cash flow are the same.

The question could be raised as to why an electric utility would elect to use up the tax deductibility of its property more rapidly. The utility makes the election in order to obtain interest-free funds made temporarily available by this process and to realize the benefits of the time-value of such funds. However, if the utility is forced to pass the reduction in taxes payable on to the customers, its cash and financial position are weakened. In effect, the company would have given up a valuable asset (a tax deduction) without compensation.

If normalization rate-making is followed, the utility has the use of the temporary funds provided by the postponement of tax payments. The time value from the temporary use of funds is the benefit--and the only benefit--to any taxpayer in adopting accelerated property write-offs for tax purposes. This is the benefit that Congress intended in 1954 to give taxpayers. The report of the Committee on Ways and Means of the House of Representatives and the report of the Committee on Finance of the United States Senate (H.R. Report No. 1337, 83rd Congress, 2nd Session, H.R. 8300) stated:

> "More liberal depreciation allowances are anticipated to have far-reaching economic effects. The incentives resulting from the changes are well timed to help maintain the present high level of investment in plant and equipment. The acceleration in the speed of the tax-free recovery of costs is of critical importance in the decision of management to incur risk. The faster tax write-off would increase available working capital and materially aid growing businesses in the financing of their expansion. For all segments of the American economy, liberalized depreciation policies should assist modernization and expansion of industrial capacity, with resulting economic growth, increased production, and a higher standard of living."

Under the predominant rate-making practice in this country, all of the time value benefits are passed on to customers by deducting the deferred tax reserve from the rate base or reflecting it as an interest-free source of funds. The additional benefits arising from a sounder financial position are also passed on to customers through lower costs of capital.

The Deferred Tax Reserve Will Grow and the Higher Taxes Will Never Be Paid

As discussed in the preceding section the provision for deferred taxes is as much a cost as is depreciation and the fact that the deferred tax reserve grows as plant grows is no more a basis for not allowing that cost than is a growing depreciation reserve a basis for disallowing the provision for depreciation as a cost.

Furthermore, continued growth of consumer demand, plant expenditures and; hence, the deferred tax reserve is not assured. If consumer demand and property additions for a company should stabilize or decline, the taxes previously deferred would become due and there would not be sufficient current deferrals to offset them. If no tax reserve had been provided in earlier years because tax payments deferred on the tax return were ignored as a cost at that time, providing the reserve currently without sizeable increases in rates, would seriously impair the earning power and balance sheet of a utility. Whether such sizeable increases in rates could be collected economically is highly questionable, particularly in a period of declining demand for electricity.

In addition, there would be legal questions as to the current collectibility of a cost that should have been collected in prior periods.

The continuous growth argument also requires the premise that the special incentives in the tax law permitting more rapid write-off of property will continue. While some of these incentives have been present for some time, the possibility of amendment or repeal always exists. In 1969, for example, 15 years after the adoption of accelerated depreciation, the House Ways and Means Committee initially voted to repeal accelerated depreciation for utilities. Upon reconsideration, the Committee voted to severely limit the use of accelerated depreciation in those cases in which it was not normalized.

The continuous growth argument ignores the fact that tax depreciation provisions, the provisions for deferred taxes and the deferred tax reserves apply specifically to property built or added in a particular year, usually referred to as the vintage year of addition. As the reserves applicable to later years increase, the reserves applicable to earlier years will decline. Recording the deferred tax reserves by vintage year is required by the Internal Revenue Service and by the Federal Power Commission and most state commissions' uniform systems of accounts.

The Deferred Tax Reserve Will
Grow and the Higher Taxes
Will Never Be Paid (Cont'd)

Although the deferred tax reserve is not a liability like a trade accounts payable for tangible materials received or long-term indebtedness, it has some similar characteristics. Trade liabilities in accounts payable and long-term debt increase as the magnitude of construction increases; but an analysis would show that specific trade accounts and bond issues are paid off and are succeeded by new accounts or bond issues. No one would suggest that utilities should not record accounts payable or bonded indebtedness merely because these accounts might increase in the aggregate as a construction program increases in response to consumer demands.

The Federal Power Commission recently conducted an extensive investigation of normalization and flow-through under Dockets R-424 and R-446. In an interim finding in connection with the investigation, (Order No. 530-A, January 19, 1976) the Commission stated that it will "...require a showing by the utility requesting normalization ... that a tax deferral rather than a tax saving would occur and that tax normalization, with respect to that class of items, is therefore appropriate." After further reconsideration, the FPC revoked this requirement in Order 530-B (July 6, 1976), stating "...we reiterate our finding in Order No. 530 that

The Deferred Tax Reserve Will Grow and the Higher Taxes Will Never Be Paid (Cont'd)

the use of normalization for rate purposes would be beneficial and in the public interest, and announce that it shall be our policy to permit such normalization upon a showing simply that the tax effect being normalized relates only to timing differences rather than to permanent differences between book and tax treatment."

Normalization Produces Higher Revenue Requirements Than Flow-Through

As previously demonstrated, the normalization rate-making technique produces revenue requirements higher than the requirements under flow-through during the early years in the service life of property and that flow-through produces higher revenue requirements in later years, as well as higher revenue requirements in total.

The principal factors that should be considered in contrasting the effects of normalization and flow-through rate-making are:

- The adoption of accelerated depreciation or other rapid tax write-off elections, when combined with normalization, does not increase revenue requirements over the requirements had those rapid tax write-offs not been elected. In fact, normalization reduces revenue requirements in comparison to not making the election.

Normalization Produces
Higher Revenue Requirements
Than Flow-Through (Cont'd)

- While flow-through rate-making decreases the revenue requirements in early years, they are higher in later years. As shown in Exhibit IV-1, revenue requirements are higher in total over the life of the asset. On a present value basis, the revenue requirements are approximately the same. The revenue requirement effects are double the tax effects because of the taxability of the gross revenue.

- In the opinion of Duff and Phelps, Inc., public utility financial analysts, whose report is included in Section VI, the cost of capital to a normalization company is estimated to be from 25 to 50 basis points lower than that of a flow-through company. This benefit is also passed on to consumers in lower consumer rates. Among the reasons why investors evaluate the securities of a normalization company higher than a flow-through company's are:

  - Normalization produces greater cash flow and internal cash generation. In 1975, deferred taxes provided nearly 7% of the construction expenditures of electric utilities.

  - Actual interest coverage ratios are higher under normalization than under flow-through. Higher coverage ratios enhance the utility's ability to finance, lead to improved bond ratings and lower debt costs to be paid for by electric consumers. As set forth in the report of Duff & Phelps, Inc., "...the pre-tax coverages of debt interest for flow-through companies in 1975 were approximately 50 basis points (.50 times) lower than that of "normalized companies."

  - The amount of investor capital required to support a given amount of physical property is less under normalization than under flow-through.

  - The recovery of capital is speeded up under normalization while it is slowed down under flow-through, thus increasing the risk that capital will be recovered and increasing the costs of capital under flow-through.

Normalization Produces
Higher Revenue Requirements
Than Flow-Through (Cont'd)

- Since normalization accounting must be followed by all nonregulated businesses and the vast majority of regulated public utilities, flow-through accounting is looked on by investors as a substandard form of reporting.

- In the short run, effective tax rates of utilities on a flow-through basis are generally lower than the effective tax rates of normalization utilities. Investors generally expect that, over the long run, effective tax rates will approximate the statutory tax rates. When lower effective tax rates are reported, investors recognize that in the future, the effective tax rates must be higher, thus indicating a greater future obligation to pay higher taxes and to collect higher rates from consumers. If such taxes cannot be collected from consumers, then they must be charged against stockholders' equity.

Because normalization accounting has become the predominant rate-making position for the effects of using accelerated tax depreciation and is becoming more common for other tax timing differences between the income tax return and general financial reporting, such as property service-lives and the treatment of overhead costs, present customers are already receiving substantial benefits from normalization. As of the end of 1975, the reduction in cost of capital, assuming an 8.9% rate of return is estimated to be $478 million. The annual reduction in customers rates are estimated to be over $1,300 million assuming that (1) because of normalization in prior years 48% of this interest-free

Normalization Produces Higher Revenue Requirements Than Flow-Through (Cont'd)

capital would otherwise be financed with equity and (2) 58% of the total capitalization of utilities is now benefiting from a .5% reduction in cost because of normalization. The deferred tax provisions (net) in 1975 amounted to about \$1,000 million, before any tax on tax effect or about \$1,936 million including the income tax effect. Thus, the net revenue requirement is \$618 million. It is estimated that, by 1985, the annual reduction in revenue requirements attributable to customers now on normalization could be over \$1,100 million, assuming a 6% growth rate in capital expenditures. For some individual companies, a cross-over point has already been reached where the revenue requirements savings because of the prior use of normalization exceed the additional revenue requirements related to the current provision for deferred taxes.

Whether Normalization Forces Consumers To Provide Capital to the Utility without Allowing Them Any Return on Their Investment

The contention is made that consumers prepay the cost of income taxes in rates. It is further contended that since the utility has sole discretion as to the use of these cash funds, the consumer is in effect required to make a capital investment in the utility, for which he receives no return.

Whether Normalization Forces Consumers To Provide Capital to the Utility without Allowing Them Any Return on Their Investment (Cont'd)

Normalization rate making does not force the investment of capital with or without return. The sequence of events and reactions to those events are:

1. Consumers are continuously using greater electricity. As shown in Illustration 1 on page I-4, per capita consumption per annum was approximately 3,800 KWH in 1960, 8,100 KWH in 1975 and is predicted to be over 13,000 KWH in 1985.

2. To fill the above demand, utilities have increased expenditures for plant from approximately $3 billion per year in the 1960 to 1965 period to $15 billion in 1975. Most of this increase is attributable to the growing volume of electricity being consumed. See Section I.

3. The Internal Revenue Code was amended to provide utility and other businesses a more rapid return of capital as an incentive to build and modernize property and equipment, thereby stimulating employment and productivity. Utilities along with all businesses have been eligible for accelerated methods of depreciation which give rise to the need for normalization if the intent of Congress is to be carried out.

Whether Normalization Forces Consumers To Provide Capital to the Utility without Allowing Them Any Return on Their Investment (Cont'd)

4. The cash funds comprising the capital needed to build the generating stations and other properties have been received through sales of equity securities and debt obligations to investors in public securities markets.

5. The property on which accelerated tax depreciation was elected gave rise to the postponement of tax payments. It was initially paid for solely from capital provided by investors.

6. To the extent that a taxpayer elects to accelerate the tax write-off of his property, the recovery of the investment is partially accelerated.

7. Passing on this recovery of investors' capital to consumers, as is done under flow-through rate-making, would require that the investors supply capital to the consumers.

8. The cost accounting which is the basis of determining the revenue requirements and rates to be charged consumers for the electricity is -

a. The original capital investment is recognized as a cost through the long established principle of depreciation accounting.

b. The capital service cost (interest on debt and return on equity) of the capital investment is recognized as a cost of electric service in the calculation of the revenue requirements and rates in accordance with sound methods which have evolved through regulatory proceedings since the early years of this century.

c. Customers are only required to pay capital service costs on the capital investment which has not been repaid to investors through depreciation or deferred tax recoveries.

d. Accrual accounting, as distinguished from cash accounting, has been recognized as a necessary principle for proper distribution and recovery of costs affecting more than one financial and rate-making reporting period since the first uniform systems of accounts for regulated businesses were developed in the latter part of the 19th and early part of the 20th century. Accrual accounting merely recognizes that the period to which the cost is properly allocated may not be the period in which the related cash expenditure is made.

e. Accounting on a normalization basis for the cost of income taxes, for which payment may be postponed under the accelerated methods of recognizing tax depreciation, is application of the long-established principle of accrual accounting. It is merely recognizing the economic fact that those taxes are cost of doing business in the years in which taxpayers "tax basis" is used up at an accelerated rate.

f. Tax expense, like depreciation, pensions, interest, fuel and other costs is incurred in the periods when the operating events occur and payment is simply made at a different time depending upon the timing of the obligation to release cash. Depreciation is paid in cash prior to the operating period, that is when the cash is released for construction for which the physical work has been completed. Pensions, fuel bills and other costs are customarily paid in cash in agreed time periods following receipt of the services and materials.

The taxes, which are based on income, may be paid currently or may be postponed through the use of accelerated depreciation methods. Normalization accounting simply recognizes that the postponement of the payment of taxes as a means of securing interest-free capital to use in financing utility construction does not eliminate a current tax cost.

g. The interest-free capital secured by the temporary deferral of tax payments represents an earlier recovery of investor supplied capital. Since there is no interest cost to this source of capital, the capital service costs recognized in the revenue requirements and rates of charge to consumers stated in step 8.b. above are less than would be necessary if payment of taxes were not postponed.

Whether Normalization Forces Consumers to Provide Capital to the Utility without Allowing Them Any Return on Their Investment (Cont'd)

The end result of the process of electing to postpone tax payments and normalization is a reduced cost of service to consumers because they receive all of the real economic benefits of a utility's election to use accelerated methods of property write-offs for tax purposes. At no time in the process outlined above is there any investment of capital by the consumer. Since there is no investment of capital by the consumer, obviously, there can be no question of a return on such non-existent capital.

In addition, the time value benefits (return) of the interest-free funds resulting from the investment process previously described are passed on to the consumers under normalization through rate base reduction.

Whether the Goals of Normalization Can Be Better Achieved through an Increased Rate of Return

The goals of least costly electric service to the consuming public and economically sound utilities to best serve the public would both be disserved by increasing the rate of return as a substitute for normalization accounting. An increase in rate of return as a substitute for normalization accounting would be counterproductive to the interests of the consumers, creditors, equity investors and the public as a whole.

Whether the Goals of Normalization Can Be Better Achieved through an Increased Rate of Return (Cont'd)

If the rate of return were increased sufficiently to cover the cost of taxes which should be normalized the results would be:

1. Cash flow and interest coverage could be maintained at the same level.

2. Consumers would be deprived of the future benefit of the lower rate base that is produced by normalization accounting. The rate base is lower because the reserve for deferred taxes (interest-free) is deducted from the base in revenue requirement and consumer rate determinations.

3. The electric utility would, in fact, still be on a flow-through basis of reporting earnings. This would result in the securities being given lower ratings by the rating services and in increases in the overall cost of money and in increases in the rates consumers would pay for electricity. The professional analysis, conclusions and opinions of Duff and Phelps, Inc., utility security analysts on this matter are included in their report, see Section VI herein.

4. Arbitrary involvement of all facets of cost and rate-making in the rate of return.

5. A mixture of the return allowed to service securities held by the public with a routine operating expense - Federal income tax expense. This would lead to confusion between earnings allowed on rate base as a policy or practice of rate making and the dollar for dollar recovery of routine operating expenses on which no return is required or appropriate.

   Retail and wholesale electric customers as well as creditors and investors would be misled. One example of such misleading results would be the interest coverage ratios. Earnings and earning power presumably available for dividends and coverage on interest requirements would be misleading in that an indeterminate part of the earnings would be to cover an income tax expense omitted from the regular operating costs.

   This confusion would be more extensive than might first seem apparent because so many regulatory commissions issue consumer rate orders without disclosing how they determined the rate base or the rate of return that make up the approved consumer rates.

6. The rate of return would soon be an excuse for incomplete or omitted costs of operation of a continuously operating company, for inadequate rate of return in the first place and an excuse for unsound accounting principles as a practice in regulated businesses. The accrual method of accounting and uniform systems of accounting were first developed in regulated public utilities to fill the needs of proper costing for rate-making purposes. Even though they can still be improved and better adapted to the circumstances of today and tomorrow, to discard such proven principles and to experiment by including operating cost recoveries on a dollar-for-dollar basis as an element of rate of return earned on capital is an unwarranted experiment at the expense of the consumer.

7. Balance sheets, income statements and other basic financial statements are continuously used by

management, employees, labor unions, creditors, banks, units of government, underwriting organizations, securities brokers and individual investors as a means of conducting many types of business activity. If consumer rates and prices were increased as a substitute for timely recognition of the economic results of merely postponing the payment of certain present tax costs, the financial statements would omit significant operating costs and obligations of a company.

Section V

SYNTHESIS OF LITERATURE SEARCH

The accompanying bibliography represents the results of a thorough search of available literature pertaining to construction work in progress and normalization of income taxes. The bibliography is organized by section and each section is further identified by type of source (for example, books, periodicals, etc.). A brief description of the item is supplied where the title is not self-descriptive.

SYNTHESIS OF LITERATURE SEARCH

I. Construction Work in Progress

A. Books

1. Gordon, Myron J., The Cost of Capital to a Public Utility, 1974 Michigan State University. Public Utilities Studies, East Lansing, 1974.

2. Pomerantz, L. S. and Suelflow, J. E., Allowance for Funds Used During Construction, Michigan State University. Public Utilities Studies, East Lansing, 1975.

3. Survey on Construction Work in Progress in Rate Base as of December 31, 1975, Edison Electric Institute, New York, 1976.

B. Articles & Periodicals

1. Info, Bulletin, Atomic Industrial Forum, Inc., Washington, D. C., November 3, 1976.
   Re: Missouri voters prohibit utilities from including construction work in progress charges in rate base.

2. "The Sheep and the Goats," Forbes, June 15, 1974, pp. 28-29.
   Re: Financing outlook for electric utilities as affected by the percentage of earnings derived from the allowance for funds used during construction.

3. P.U.R. Executive Information Service, Weekly letter - Utilities, Washington, D. C., October 14, 1976.
   Re: Federal Power Commission consideration of the inclusion of construction work in progress in rate base.

4. "A Pragmatic Approach to Construction Work in Progress," Public Utilities Fortnightly, March 3, 1977, pp. 31-37.
   Re: The decision whether to include construction work in progress in a utility's rate base should depend largely on two considerations: the net cost of money to the regulated utility, and the alternative investment opportunities of its ratepayers.

5. Bloom, George I., "A Fraud on Investors," Public Utilities Fortnightly, November 4, 1976, pp. 47-48.
Re: Concerning the deprivation of necessary utility revenues by excluding construction work in progress from the rate base.

6. Coughlan, Paul B., "Allowance for Funds in Construction: Accounting Stepchild and Regulatory Football," Public Utilities Fortnightly, November 4, 1976, pp. 29-34.
Re: Factors cited in favor of an allowance for funds used during construction for utilities.

7. "Progress of Regulation," Public Utilities Fortnightly, September 25, 1975, pp. 51-53.
Re: Different rate cases concerning allowance for funds used during construction.

8. "Progress of Regulation," Public Utilities Fortnightly, March 27, 1975, pp. 46-47.
Re: The exclusion of construction work in progress from the rate base.

9. "Progress of Regulation," Public Utilities Fortnightly, March 13, 1975, pp. 50-52.
Re: The inclusion of construction work in progress in the rate base.

10. Frazer, Robert E. and Ranson, Richard C., "Is Interest during Construction "Funny Money"?" Public Utilities Fortnightly, December 21, 1972.
Re: Discussion of interest during construction and its proper accounting treatment.

11. Litke, Arthur L., "Allowance for Funds Used During Construction," Public Utilities Fortnightly, September 28, 1972, pp. 19-22.
Re: The analysis of financial statements of utilities, based upon new interpretations of the allowance for funds used during constructions.

12. Bolster, Dennis R., "Should Plant under Construction Be Included in Rate Base?", Public Utilities Fortnightly, May 27, 1971, pp. 25-28.
Re: Treatment for plant under construction by the regulatory authorities, different methods.

13. Morris, Everett L., "Capitalization of Interest on Construction: Time for Reappraisal?", Public Utilities Fortnightly, March 4, 1971, pp. 19-29.
Re: Five alternatives to capitalizing interest on construction.

14. Rydell, Fred, "Interest During Construction" <u>Public Utilities Fortnightly</u>, May 11, 1967, pp. 39-43.
Re: General principles of interest during construction including cases illustrating the effect of capitalizing the interest.

15. Rydell, Fred, "Interest During Construction, Part II," <u>Public Utilities Fortnightly</u>, May 25, 1967, pp. 22-29.
Re: Other aspects of construction work in progress, including alternatives to the capitalization of interest.

16. "Progress of Regulation," <u>Public Utilities Fortnightly</u>, February 2, 1967, pp. 63-65.
Re: Different commission and court rulings with respect to construction work in progress.

C. Testimony, Cases and Legal Documents

1. Testimony, Hearings Before the Subcommittee on Energy and Power, Electric Utility Rate Reform and Regulatory Improvement, Part 2, pp. 1157-1332, April 7, 1976.
Re: Various testimony pertaining to the inclusion of construction work in progress in rate base.

2. Order No. 5434, in the matter of application of Potomac Electric Power Co. for an increase in rates for retail electrical service, before the Public Service Commission of the District of Columbia, June 12, 1970.
Re: Upholds inclusion of construction work in progress in rate base.

3. <u>Goodman vs. Public Service Commission of the District of Columbia</u>, 467 F. 2nd 375, May 12, 1972.
Re: Consumer seeks review of order of Public Service Commission with regard to establishment of rate schedules.

4. U.S. Circuit Court upholds D.C. Commission in Potomac Electric Power Company case, on inclusion of construction work in progress in rate base, end of period rate base, allocation procedures and computation of additional income taxes, U.S. Court of Appeals for D.C. Circuit, March 25, 1974, No. 73-1345.

5. Florida Public Service Commission Order 6591 requires portion of construction work in progress in rate base, comprehensive tax allocation and pick-up of unbilled revenue, but disallows unrecovered fuel costs, Florida Power & Light Co., April 1975.

6. Florida Public Service Commission Order No. 6640 requires electric companies to include "normal average amount of construction work in progress" in rate base and limit allowance for funds used during construction to amounts in excess of this level, April 28, 1975.

7. Georgia Supreme Court holds that rate order is not confiscatory but borders on "unreasonableness," Georgia Power Company, November 8, 1973.

8. Illinois Commerce Commission approves inclusion of portion of construction work in progress in rate base and allows normalization of certain tax timing differences. Central Illinois Light Co., Dockets 58925 and 59179 consolidated, February 20, 1975.

9. Maryland Public Service Commission Order No. 60475 reaffirms inclusion of construction work in progress in the rate base; allows test year adjustment for labor union contract, Potomac Electric Power Co., October 26, 1973.

10. State of Missouri Public Service Commission, Cases No. 18,314 and 18,527, Union Electric Company, concerning inclusion of construction work in progress in rate base, December 22, 1975.

11. Direct Testimony and cross-examination of R.W. Walker before the New York Public Service Commission regarding inclusion of construction work in progress in rate base. Orange and Rockland Utilities, Inc., September, 1972.

12. New York Public Service Commission, Case 26238, permits allowances for construction work in progress in the rate base. Orange and Rockland Utilities, Inc. and Long Island Lighting Co., June 1973.

13. The Corporation Commission of Oklahoma Order No. 112286 allows consideration of work in progress in the rate base, May 15, 1975.

14. Wisconsin Commission staff testifies in favor of inclusion of construction work in progress in rate base, Wisconsin Power and Light Company rate case, Docket 2-U-7778, September 27-28, 1973.

15. Wisconsin Public Service Commission, Order re Docket No. 2-U-7778 does not include construction work in progress in rate base; requests further consideration in future cases, Wisconsin Power and Light Company, March 8, 1974.

16. Wisconsin Public Service Commission adopts 1) inclusion of construction work in progress in rate base up to 10% of net investment rate base and 2) expanded fuel clause to include efficiency monitoring, Madison Gas and Electric Co., August 29, 1974.

17. Accounting Series Release No. 163, "Capitalization of Interest by Companies Other Than Public Utilities," Securities and Exchange Commission, Washington, D. C., November 14, 1974.
    Re: The Securities and Exchange Commission adopts a policy of restricting capitalization of interest by companies other than public utilities.

D. Federal Power Commission

1. Federal Power Commission proposed that construction work in progress subject to Federal Power Commission's rate jurisdiction be allowed in rate base, Docket No. RM 75-13, November 14, 1974.

2. Written responses to Federal Power Commission proposal that construction work in progress subject to Federal Power Commission rate jurisdiction be included in rate base, Docket RM 75-13, April 15, 1975.

3. Oral arguments and schedules submitted in connection with the proposal that construction work in progress subject to Federal Power Commission rate jurisdiction be included in rate base, Docket RM 75-13, held in New York City, March 8, 1976.
   Re: Oral arguments of the merits and necessity for including construction work in progress in the rate base.

4. Order No. 555, Order Adopting in Part Construction Work in Progress Rulemaking and Terminating Proceeding, November 8, 1976.
   Re: Order concerns Docket RM 75-13 on construction work in progress.

5. Order No. 555-A, "Order Denying Rehearing," Docket No. RM 75-13, January 6, 1977.

6. Government Accounting Office, Report of the Comptroller General of the United States relating to An Evaluation of the Federal Power Commission's Rulemaking on Utilities' Construction Work in Progress, Washington, D. C., December 2, 1976.
   Re: The results of a review of the Federal Power Commission's proposed rulemaking, Docket RM 75-13, which would allow natural gas and electric companies to include construction work in progress in their rate bases.

7. Order No. 561, Order Adopting Amendment to Uniform System of Accounts for Public Utilities and Licensees and for Natural Gas Companies, Docket RM 75-27, February 2, 1977.
   Re: Order providing a formula to be used in determining the rate for computing the allowance for funds used during construction.

E. Arthur Andersen & Co. Research Papers

1. "The Capital Cost of Utility Construction," by Richard Walker, 1971, Arthur Andersen & Co.
   Re: New accounting and regulatory approaches are needed to meet problems caused by impaired cash flow of utilities, description of interest capitalization and related issues.

2. "Principles Underlying the Capitalization of Interest During Construction." March 1, 1953.

F. Other

1. Roseman, Herman, "The Economic Advantages of Putting CWIP in the Utility Rate Base." Draft of testimony dated 2/11/76 (received from the FEA).

2. Kumins, Lawrence and Lancaster, Angela, "Cost of Including Construction Work in Progress in Rate Base as Proposed by the Federal Power Commission," Economics Division, Library of Congress, Congressional Research Service.

II. Normalization vs. Flow-Through

A. Books

1. Brigham, Eugene F. and Pappas, James L., Liberalized Depreciation and the Cost of Capital, MSU Public Utilites Studies, East Lansing, 1970.
   Re: Discussion of normalization and flow-through effects on rates.

2. Trebing, Harry M. and Howard, R. Hayden, Rate of Return under Regulation: New Directions and Perspectives, MSU Public Utilities Studies, East Lansing, 1969.
   Re: Chapter 4 discusses the alternative effects of liberalized depreciation under normalization and flow-through on the cost of equity capital, and the impact of inflation on regulated returns.

3. Bevis, Donald J. and Perry, Raymond E., Accounting for Income Taxes, An Interpretation of APB Opinion No. 11, American Institute of Certified Public Accountants, Inc., New York, 1969.
   Re: A discussion of the accounting for deferred income taxes.

B. Articles and Periodicals

1. Ely, Owen, "Financial News and Comments," Public Utilities Fortnightly, February 17, 1966, pp. 48-50.
   Re: Rebuttal criticism of the Investment Bankers Association analysis of flow-through accounting.

2. Ely, Owen, "Financial News and Comment," Public Utilities Fortnightly, January 6, 1966, pp. 50-52.
   Re: Criticism of flow-through accounting by the Investment Bankers Association, based upon electric utility surveys.

3. Fenske, Russell W., "Effect of 'Flow-Through' and 'Normalization' on Electric Utilities," Public Utilities Fortnightly, May 21, 1964, pp. 42-55.

4. "Progress of Regulation," Public Utilities Fortnightly, November 24, 1960, pp. 849-853.
   Re: Flow-through and tax deferrals in rate-making.

5. "Financial News and Comment," Public Utilities Fortnightly, October 22, 1959, pp. 721-724.
Re: The Goodbody Study concerning liberalized depreciation and public utilities.

6. Stanley, Willard F., "Liberalized Depreciation after Five Years," Public Utilities Fortnightly, September 10, 1959, pp. 401-411.
Re: Practices among utilities in regard to liberalized depreciation and accelerated amortization.

7. "Financial News and Comment," Public Utilities Fortnightly, September 11, 1958, pp. 399-402.
Re: Handling of tax savings from accelerated depreciation.

8. "FPC Rules on Accounting Treatment of Deferred Taxes," Public Utilities Fortnightly, July 17, 1958, pp. 113-117.
Re: Normalization of taxes as related to rate-making issues.

9. Brooks, Warren, "Accelerated Depreciation," Public Utilities Fortnightly, September 26, 1957, pp. 433-441.
Re: Methods of treating accelerated depreciation for accounting.

10. "Liberalized Depreciation," Public Utilities Fortnightly, August 15, 1957, pp. 264-269.
Re: A presentation by A. R. Colbert of the Wisconsin Public Service Commission, concerning Section 167 of the 1954 Internal Revenue Service Code, i.e., liberalized depreciation.

11. Ely, Owen, "Financial News and Comment," Public Utilities Fortnightly, July 4, 1957, pp. 34-39.
Re: Commissions reversing policy on tax deferrals from accelerated depreciation.

12. Ely, Owen, "Financial News and Comment," Public Utilities Fortnightly, December 20, 1956, pp. 992-995.
Re: Accelerated depreciation and share earnings of public utilities.

13. "Utility Spokesmen View Accelerated Depreciation," Public Utilities Fortnightly, November 22, 1956, pp. 855-861.
Re: Utility representative viewpoints on issues of liberalized depreciation, particularly normalization and flow-through.

14. Guercken, C. P., "Economic and Regulatory Aspects of Accelerated Depreciation," Public Utilities Fortnightly, August 2, 1956, pp. 145-167.

15. "Progress of Regulation: Regulatory Trends," Public Utilities Fortnightly," December 8, 1955, pp. 977-981.
Re: Different views and opinions of accelerated depreciation and amortization.

16. Ely, Owen, "Financial News and Comment," Public Utilities Fortnightly, December 8, 1955, pp. 952-954.
Re: The regulatory implications of accelerated depreciation.

17. "Treatment of Liberalized Tax Depreciation," Public Utilities Fortnightly, August 18, 1955 pp. 264-269.
Re: The effects of accelerated depreciation upon public utility companies.

18. "Liberalized Tax Depreciation," excerpts and comments relating to a speech by L. N. Ostergren of American Telephone and Telegraph Company. Public Utility Fortnightly, July 7, 1955, pp. 49-51.
Re: The potential effects of accelerated depreciation upon utility companies.

19. Stanley, Willard F., "What the New Rapid Tax Depreciation Means to Utilities," Public Utilities Fortnightly, March 3, 1955, pp. 235-244.

20. "Accelerated Income Tax Depreciation - Accounting and Rate-Making Aspects," U. S. Independent Telephone Association, 1969.
Re: Basic arguments presented for normalization and flow-through.

21. O'Donnell, John L., "Relationships between Reported Earnings and Stock Prices in the Electric Utility Industry," The Accounting Review, January, 1965, Volume 40, Number 31, pp. 135-142.
Re: Discussion of the connection between common stock values and depreciation methods employed in the electric utility industry.

22. O'Donnell, John L., "Further Observations on Reported Earnings and Stock Prices," The Accounting Review, July, 1968, Volume 43, Number 3, pp. 549-553.
Re: An update of the author's earlier article (see item 21 above).

C. Testimony, Cases and Legal Documents

1. Testimony of W. B. Thatcher before Alabama Public Service Commission for Alabama Power Co., 1972.
   Re: Discussion of normalization of tax effect of certain construction overheads.

2. Alabama Public Service Commission Docket No. 16851, January 14, 1974, Alabama Power Company.
   Re: Approval of normalization of tax effects of interest, pensions, etc. capitalized.

3. Alabama Public Service Commission, Docket 16814, September 27, 1974, Alabama Gas Corporation.
   Re: Approval of normalization of construction overheads, costs of removal, and ADR repair allowance.

4. California Public Utility Commission Decision 74917, November 6, 1968, Pacific Telephone and Telegraph Co.
   Re: Setting rates for Pacific Telephone and Telegraph Company as if using liberalized depreciation with flow-through even though company did not claim liberalized depreciation for tax return purposes.

5. California Public Utility Commission Decision 77984, November 24, 1970, Pacific Telephone and Telegraph Company.
   Re: Permitting Pacific Telephone and Telegraph Company to use normalization for rate and accounting purposes.

6. California Public Utility Commission Decision No. 78851, June 22, 1971, Pacific Telephone and Telegraph Company.
   Re: Allowing normalization for accelerated depreciation.

7. California Supreme Court, November 26, 1971, Pacific Telephone and Telegraph Company.
   Re: Annuls California Public Utility Commission's Decision No. 77984 on normalization.

8. California Public Utility Commission Decision 83162, July 23, 1974, Pacific Telephone and Telegraph Company.
   Re: Allowing Pacific Telephone and Telegraph Company to normalize accelerated depreciation.

9. California Supreme Court, City of Los Angeles vs. Public Utilities Commission (1975) 15 c 3d 680.
   Re: Annulled that portion of rate increase granted in Decision 83162, related to accelerated depreciation and investment tax credits.

10. California Public Utility Commission vs. Federal Power Commission, U. S. Court of Appeals, D. C. Opinion No. 71-1830, November 1, 1974, Transwestern Pipeline Co.
   Re: Upholds Federal Power Commission use of normalization on pre-1970 property and post-1969 nonexpansion property.

11. Richard Walker's testimony before Florida Public Service Commission, February 5, 1974, Tampa Electric Company.
   Re: Recommending tax normalization for costs capitalized but currently deducted for taxes.

12. Florida Public Service Commission Order No. 6917, September 22, 1975.
   Re: Requiring full normalization for all electric and gas utilities.

13. Iowa State Commerce Commission, Docket No. U-325, June 30, 1972, Iowa Power and Light Company.
   Re: Disallowing tax allocation on interest capitalized.

14. Prepared rebuttal testimony of Richard Walker before the Kansas Corporation Commission on behalf of Southwestern Bell Telephone Company, Docket No. 107 330-U
   Re: Use of normalization.

15. Testimony of H. C. Hill before Kansas Corporation Commission for Kansas Power and Light Co., 1975.
   Re: Rebuttal of flow-through.

16. Massachusetts Department of Public Utilities Order 17795-A, July 31, 1974, Boston Edison Company.
   Re: Allowing normalization of taxes associated with guideline depreciation and the debt portion of AFUDC with a corresponding reduction in rate base.

17. Missouri Public Service Commission Order, Case No. 16,881, December 31, 1969, St. Joseph Light and Power Company.
    Re: Ordering normalization.

18. New York Public Service Commission statement of policy on rate treatment of investment tax credits and tax benefits of Asset Depreciation Range System, September 26, 1972.
    Re: Normalization of taxes for rate purposes.

19. New York Public Service Commission Case No. 26780, Direct testimony of Jay H. Price, Jr. On behalf of The Brooklyn Union Gas Company, January 21, 1975.
    Re: Using normalization for all timing differences and service life method for Job Development Credit.

D. U. S. Internal Revenue Code

1. Code and Regulation Sections

   a. Investment Tax Credit

      (1) Code Section 46(f)
      (2) Regulations Section 1.46-5
      (3) Temporary Regulations Sections 12.3 and 9.1

   b. Depreciation

      (1) Code Section 167(1)
      (2) Regulations Sections 1.167(1) and 1.167(a)-11(b)(6)

2. Committee Reports

   a. Tax Reform Act of 1969 (Code Section 167(1) re: depreciation)

      (1) Report of the Committee on Ways and Means; House of Representatives; House Report No. 91-413.
          Part I, pp. 131-134, August 2, 1969
          Part II, pp. 100-102, August 4, 1969

      (2) Report of the Committee on Finance, U. S. Senate, Senate Report No. 91-552, November 21, 1969. pp. 171-176

E.

(3) Conference Report, House Report No. 91-782, Statement of the Managers, pp. 312-313

b. Revenue Act of 1971 (Code Section 46(e), redesignated 46(f) by the Tax Reduction Act of 1975, re: Investment Tax Credit)

(1) Report of the Committee on Ways and Means, House of Representatives, House Report No. 92-533, September 29, 1971, pp. 23-26

(2) Report of the Committee on Finance, U. S. Senate, Senate Report No. 92-437, November 9, 1971, pp. 35-41

(3) Conference Report, Senate Report No. 92-553, House Report No. 92-708, December 4, 1971, pp. 38-39

c. Tax Reduction Act of 1975 (Section 46(f)(8) re: Investment Tax Credit)

(1) Report of the Committee on Finance, U. S. Senate, Senate Report No. 94-36, March 17, 1975, pp. 44-45

d. Tax Reform Act of 1976 (various sections which deal with the investment credit)

3. Testimony

a. Tax Reform Act of 1969 (Code Section 167(1))

(1) Hearings before the Committee on Ways and Means; House of Representatives, Parts 10 and 11 (March 24-27, 1969), pp. 3535-3806, 3819-3969

(2) Hearings before the Committee on Finance, U. S. Senate, Part 5, Written Testimony, pp. 4963-4982

b. Revenue Act of 1971

(1) Hearings before the Committee on Ways and Means, House of Representatives, September 8-17, 1971, 4 parts

E. Federal Power Commission

1. FPC proposed rulemaking on interperiod allocation of Income Taxes

   a. Proposed rulemaking Docket No. R-424, Accounting for Premium, Discount and Expense of Issue, Gains and Losses on Refunding and Reacquisition of Long-Term Debt, and Interperiod Allocation of Income Taxes, August 6, 1971.
      Re: Comprehensive income tax allocation.

   b. Various respondents' comments related to interperiod allocation of income taxes portion of proposed rulemaking Docket No. R-424 concerning accounting for Premium, Discount and Expense of Issue, Gains and Losses on Refunding and Reacquisition of Long-Term Debt, and Interperiod Allocation of Income Taxes.
      Re: Discussion of the merits of normalization vs. flow-through accounting.

   c. Proposed rulemaking Docket No. R-446, Amendments to the Uniform Systems of Accounts for Classes A, B, and C Public Utilities and Licensees and Natural Gas Companies; Deferred Income Taxes, July 6, 1972.
      Re: Tax allocation rules for effect of ADR depreciation and for differences between plant costs capitalized for book and tax purposes.

   d. Various respondents' comments concerning the proposed rulemaking Docket No. R-446, Amendments to the Uniform Systems of Accounts for Classes A, B and C Public Utilities and Licensees and Natural Gas Companies; Deferred Income Taxes

   e. Federal Power Commission staff prepared summary on Conference on Dockets R-424 and R-446, December 5, 1972.

   f. Order No. 504, Implementing a portion of Docket No. R-424 relating to interperiod allocation of income taxes and Docket No. R-446 to achieve comprehensive interperiod allocation of income taxes and to prescribe accounting to implement the class life asset depreciation range system, February 11, 1974 (Dockets R-424 and R-446).
      Re: Deferring decision on comprehensive tax allocation but prescribing limited rules to cover ADR depreciation and certain other matters.

g. Order No. 530, Implementing that Portion of Docket No. R-424 Relating to Interperiod Allocation of Income Taxes and Docket No. R-446 to Achieve Comprehensive Interperiod Allocation of Income Taxes, June 18, 1975.
   Re: Adoption of normalization and comprehensive interperiod income tax allocation.

h. Order No. 530-A, Denying Applications for Rehearing and Clarifying Prior Order, January 19, 1976, (Dockets R-424 and R-446).
   Re: Modification of FPC Order No. 530 to require showing of tax "deferral" rather than tax "savings."

i. Order No. 530-B, Revising Prior Orders, July 6, 1976 (Dockets R-424 and R-446), Revising 530-A and Allowing Adoption of Full Normalization Without Specific Factual Showing.

j. Order Denying Rehearing of Order No. 530-B (Docket R-424 and R-446), September 3, 1976.
   Re: Denial of rehearing relating to Order No. 530-B relating to comprehensive interperiod allocation of income taxes.

2. Alabama - Tennessee Natural Gas Company Case

a. Opinion No. 417, Docket Nos. G-5471 et al., Alabama-Tennessee Natural Gas Company, February 3, 1964.
   Re: The Federal Power Commission has adopted a flow-through policy with respect to the rate and accounting treatment of the tax benefits of liberalized depreciation.

b. Opinion No. 417-A, Docket Nos. G-5471 et al., Alabama-Tennessee Natural Gas Company, April 15, 1964.
   Re: Refusal to grant a rehearing of the decision reached in Opinion No. 417 relating to their adoption of the flow-through policy with respect to the rate and accounting treatment of the tax benefits of liberalized depreciation.

c. Various briefs filed with the United States Court of Appeals for the fifth circuit, New Orleans, relating to the Alabama-Tennessee Natural Gas Company appeal of Federal Power Commission Opinion Nos. 417 and 417-A, 1964.
   Re: Briefs filed by Alabama-Tennessee Natural Gas Company, Petitioner; Independent Natural Gas Association of America, Amicus Curiae; Panhandle Eastern Pipe Line Company, Amicus Curiae; Arthur Andersen & Co., Amicus Curiae; Federal Power Commission, Respondent; Tennessee Valley Municipal Gas Association, Intervenor; American Public Gas Association and City of Chicago, jointly, Amicus Curiae, People of the State of California and California Public Utilities Commission, jointly, Amicus Curiae.

d. Decision No. 21610, Court of Appeals for the Fifth Circuit, March 25, 1976.
   Re: Decision upholding the Federal Power Commission's Opinion No. 417.

e. Motion of Alabama-Tennessee Natural Gas Company requesting the Fifth Circuit Court of Appeals to enter an order staying its mandate of the opinion and judgement entered on March 25, 1966, upholding the Federal Power Commission's Opinion No. 417.

f. Briefs of Alabama-Tennessee Natural Gas Company (Petitioner) and Independent Natural Gas Association of America, Amicus Curiae, filed with the Supreme Court to obtain a review of the Fifth Circuit Court of Appeals decision upholding the Federal Power Commission's Opinion No. 417.

g. United States Supreme Court denies petition for a writ of certiorari by Alabama-Tennessee Natural Gas Company to review the Fifth Circuit Court of Appeals in which it upheld the Federal Power Commission's Opinion No. 417.

3. Midwestern Gas Transmission Company Case

a. Examiner's Decision, Docket Nos. RP 61-19, RP 62-7, and RP 63-6, January 11, 1966, Midwestern Gas Transmission Company.
   Re: Decision recommending that Midwestern Gas Transmission Company be required to impute liberalized depreciation on the flow-through basis in determining the Federal income tax allowance in its cost of service

b. Opinion No. 497, Docket Nos. RP 61-19, RP 62-7, July 15, 1966, Midwestern Gas Transmission Company and East Tennessee Natural Gas Company.
   Re: The Federal Power Commission held that a company which had switched from liberalized to straight-line tax depreciation, where the effect was to increase the income taxes in cost-of-service for rate purposes, would have its rates set as if using liberalized depreciation with flow-through.

c. Opinion No. 497-A, Docket Nos. RP 61-19, RP 62-7, Midwestern Gas Transmission Company, September 9, 1966.
   Re: Applications for rehearing of Opinion No. 497; denied.

d. U. S. Court of Appeals, 7th circuit, decision upholding Federal Power Commission Order No. 497 in the Midwestern Gas Transmission Company case, January 5, 1968.

e. United States Supreme Court declined to review Federal Power Commission Opinion No. 497, June 17, 1968.

4. Other

   a. Letter from Federal Power Commission Chief Accountant to Public Service Company of New Hampshire, January 21, 1974, indicating acceptability of tax allocation of interest where allowed for rate purposes.

F. Arthur Andersen & Co. Research Papers

1. Position of Maryland Public Service Commission regarding income tax accounting, 1972.
   Re: Allowing normalization or flow-through.

2. Address by Richard Walker and Jay Price, "Depreciation: The Overlooked Factor in Investment Analysis," to the New York Society of Security Analysts, March 30, 1971.

3. Charts illustrating the effect of deferred taxes, Arthur Andersen & Co.
   Re: Deferred taxes on accelerated depreciation.

4. Memorandum regarding the accounting treatment of the investment credit under the Revenue Act of 1962, December 11, 1962.
   Re: Accounting for the investment tax credit by offsetting the cost of the property.

5. "Accounting for the Tax Effect of Accelerated Amortization and Liberalized Depreciation," Memorandum by Consolidated Edison Company of New York, Inc. and Comments by Leonard Spacek, December 1957.
   Re: Arguments against normalization are rebutted by Leonard Spacek.

G. Other

1. Accounting Research Bulletin No. 44 (revised), "Declining-balance Depreciation, American Institute of Certified Public Accountants, New York, July, 1958.
   Re: Establishes accounting principles for accounting for income taxes.

2. Accounting Series Release No. 85, "Statement of Administrative Policy regarding Balance Sheet Treatment of Credit Equivalent to Reduction in Income Taxes," Securities and Exchange Commission, Washington, D. C., February 29, 1960.
   Re: The Securities and Exchange Commission requires registrants to present deferred taxes in accordance with Accounting Research Bulletin No. 44 (revised) (see 1 above).

3. Accounting Principles Board Opinion No. 11, "Accounting for Income Taxes," American Institute of Certified Public Accountants, New York, 1967.
   Re: Establishes accounting principles for accounting for income taxes.

4. Price Waterhouse & Co., "Is Generally Accepted Accounting for Income Taxes Possibly Misleading Investors?" New York, 1967.
   Re: Discussion of the arguments against comprehensive interperiod income tax allocation.

5. Accounting Series Release No. 149, "Notice of Amendment to Regulation S-X to Provide for Improved Disclosure of Income Tax Expense," Securities and Exchange Commission, Washington, D. C., November 28, 1973.
   Re: Securities and Exchange Commission requires registrants to provide certain additional disclosures concerning the difference between recorded tax expense and "expected" tax expense.

Duff and Phelps, Inc.

55 East Monroe Street · Chicago, Illinois 60603
(312) 263-2610 · Telex 25-5165

AN INVESTMENT EVALUATION OF NORMALIZED ACCOUNTING AND CONSTRUCTION WORK IN PROGRESS

March 25, 1977

TABLE OF CONTENTS

TABLES

March 25, 1977

AN INVESTMENT EVALUATION OF NORMALIZED ACCOUNTING AND CONSTRUCTION WORK IN PROGRESS

SUBJECT: Normalization Of Tax Timing Differences and Inclusion of CWIP In Rate Base For Regulatory Rate Making Purposes

CONCLUSION

It is our conclusion that the cost of capital to utilities will be higher unless permitted to: (1) use full normalization of tax timing differences and (2) include Construction Work In Progress (CWIP) in the rate base without any offsetting capitalization of Allowance For Funds Used During Construction (AFC) included in income. With respect to the former, our studies statistically show that investors recognize the difference in the quality of earnings between those companies that normalize and those that flow-through. This has been reflected in the comparison of price/earnings (P/E) ratios and common stock yields between flow-through companies and normalized companies in which normalized companies have sold at higher price/earnings ratios and lower stock yields than flow-through companies. The cost of debt also has been higher for flow-through companies. The overall cost of capital for a flow-through company is at least .25 to .50 percentage points more than for a normalized company, in our opinion.

With respect to whether investors make a distinction between that portion of earnings derived from operations and that portion derived from AFC, we found that bond ratings are affected by the relative amount of AFC. When AFC increased from about 10% to 17% of pre-tax income, the bond ratings declined from a double-A rating to a weak single-A rating. We could not find a clear-cut statistical correlation to quantify precisely the AFC effect on the cost of common equity on an individual company basis. However, the impact of a large amount of AFC on the cost of capital was material for some specific companies. Also, for the electric industry as a whole, as AFC increased the industry price/earnings ratio declined relative to that of The American Telephone and Telegraph Company (AT&T) and the common stock dividend yields for electrics increased relative to the yields for new double-A utility bonds. The reaction of investors to a regulatory change in Missouri to exclude CWIP from rate base was analyzed, and this study showed a decline in common stock prices (higher cost) following the exclusion of CWIP from rate base. Based on these studies, we estimate that the overall cost of capital would be higher by approximately .30 to .70 percentage points if CWIP were excluded from rate base and the capitalization of AFC were continued.

NORMALIZATION OF TAX TIMING DIFFERENCES

Quality of Earnings

The effective tax rate, by our definition, is the ratio of income taxes to pre-tax income per books (excluding AFC). A high effective income tax rate would indicate sound accounting practices in which a company is recording expenses for books equal to those claimed for tax purposes or is providing for the deferred taxes where the expenses differ. On the other hand, a low effective tax rate would indicate a discrepancy between pre-tax operating income for tax purposes and that for book purposes.

The flow-through of deferred taxes is one of the major items that results in a lower effective income tax rate. The effective income tax rate for normalized companies (Table I) with the exception of one year (1971) has generally been in excess of 40% with a high of 50% recorded in 1960. Flow-through companies, on the other hand, had effective tax rates in excess of 40% only in the early 1960s and this has substantially declined with a low point being reached in 1974 when the effective tax rate was only 9%. Consequently, the spread in the effective income tax rates which were generally less than 10% during the early and mid-1960s increased to well over 10% in the late 1960s and since 1971 has been in excess of 20%. This means that as flow-through increases, the quality of earnings decreases because a larger proportion of future tax expense is not being recognized. As indicated earlier, investors take this into account with the result that such earnings of flow-through companies are perceived to represent higher risk and are valued less than earnings for normalized companies.

Future Revenue Requirements - Tax Viewpoint

Investors regard earnings derived from flow-through accounting with suspicion as they realize that an expense that should be recorded currently is not being recorded and will have to be recorded at a later date. The reason such expense is not recorded currently for flow-through companies is that many regulatory bodies have not recognized such deferred tax expense as an expense for rate-making purposes. All this being equal, current revenue requirements are lowered from what they would be if deferred tax expense was allowed. However, ultimately recorded income tax expense for a flow-through company will be greater than that for a normalized company inasmuch as a flow-through company had not in prior years provided a reserve for deferred income taxes.

The amount of depreciation that can be claimed for tax purposes over the life of an asset is the same whether one uses straight-line or an accelerated method. Thus, a flow-through company which claims greater tax depreciation expense in the early years in the life of an asset while recording on its books straight-line depreciation will record lower income taxes in the early years of the asset. However, as depreciation allowed for tax purposes ultimately declines and in time becomes less than straight-line book depreciation, a flow-through company would record higher taxes in the later years of the asset. The normalized company has provided for this reversal by setting up a deferred tax reserve. Consequently, the flow-through company which has not provided for deferred taxes will, unless its rates are increased, have lower reported earnings at a future date than it has currently. To investors, this represents a risk which is absent for companies that normalize tax deferrals. A flow-through company will need rate increases whereas a normalized company will not.

Given the present economic situation, practically all electric utilities will need rate increases from time to time in the future; however, flow-through companies will most likely need greater percentage rate increases than normalized companies in order to maintain an acceptable level of earnings. To the degree that investors perceive this greater necessity for future rate relief, investors perceive additional risks. In essence, investors have less confidence in the ability of a flow-through company to maintain earnings than they do for a company that normalized deferred taxes.

Future Revenue Requirements - Cash Flow Viewpoint

The rate of increase in the embedded cost of capital is dependent not only on the rate of plant additions but also in part, on the degree to which construction requirements are financed by external funds. To the extent that a company can finance its requirements with internal funds, a company will not have to rely on new external funds from the securities market at higher money costs to meet this growth. Therefore, to the extent that internal cash generation tends to represent a relatively large percentage of construction requirements, the rate of increase in new capital will be relatively low. Thus, the embedded cost of capital for a company will increase at a lower rate for a company having high internal cash generation than for a company having low internal cash generation. In this environment, a company with relatively high internal cash generation will tend to require, all other things being equal, rate increases from its regulatory body producing a lower overall rate of return than will a company relying largely on external financing to meet its growth. In this context, a flow-through company relies on external financing to meet its construction requirements to a larger extent because it does not have the cash flow arising from deferred taxes as is the case for a normalized company. Thus, not only will a flow-through company need more rate relief, versus a normalized company, to meet its future increased recorded tax expense resulting from its failure to record deferred taxes, but it will also need additional rate relief because its embedded cost of capital will tend to be greater than that of a normalized company. This arises out of its greater reliance on external financing to meet capital requirements, and the current cost of capital is considerably greater than it has been historically.

Regulation and Risk

Investors recognize the uncertainty that arises when a utility needs to seek a rate increase. Because of this uncertainty, there is increased risk as far as investors are concerned. Investors not only have to deal with the uncertainty of what rate of return on equity will be allowed in a proceeding, but they also have to consider the very real problems of attrition and regulatory lag. In essence, investors prefer situations where the utilities do not have to seek rate increases because under such circumstances it is more likely that utilities are earning adequate returns on their investments and the cost of capital is being recovered. Thus, the investor is realizing his required return.

This favorable situation, in actuality, has not existed for many years because inflation has increased operating expenses as well as the cost of new utility plant. Consequently, rate increases are needed just to maintain rates of return which in earlier years were reasonable. On top of this, the cost of debt is considerably higher than it has been in the past necessitating higher rates of return. Returns on equity required by investors are higher now than ten to fifteen years ago when the cost of money was considerably lower. Under present conditions the investor experiences not only the rapidly rising investment per unit of plant capacity for a given utility but also an increasing embedded cost of capital. In fact, the faster a company grows in physical plant under today's conditions, the more rapid is the rate of increase in its unit cost of plant capacity and its embedded cost of capital. Thus we see virtually every electric utility in the nation repeatedly seeking rate increases. Commissions have granted rate increases, although not necessarily equal to what is required in today's market. Nevertheless, problems of regulatory lag and attrition have generally resulted in the inability of the industry to earn equity returns equal to what the regulatory bodies have permitted. This disparity between actual results and what the commissions, in theory, have permitted is the result of attrition and regulatory lag.

Regulatory lag is the period that transpires between the historic test period and the time the new rates are implemented. As a result of constantly rising costs and regulatory lag, the rate of return or the return on equity actually earned, after receiving a rate increase, falls short of what was indicated in the decision when using an historical test period. Attrition is a measure of the degree in which either the rate of return or the return on equity tends to decline over a period of time under level rates. For the electric utility industry, attrition is relatively severe inasmuch as plant investment is increasing upwards of 5% per year greater than revenues under level rates. Assume a company is able to earn 8% on its rate base at the end of 1975; if there is no change in rate levels, the rate of return one year later may decline to 7.6% at the end of 1976 as a result of attrition and possibly to 7.2% the following year.

Thus, under present conditions, anything that tends to reduce the severe impact of regulatory lag and/or attrition is perceived positively by the investor. The investor realizes that anything that minimizes the impact of attrition or regulatory lag, the better the chance he has of realizing the stated returns allowed by the regulatory bodies. In this framework, as noted before, a normalized company, all other things being equal, will have a better chance of earning the permitted rate of return and return on equity than will a flow-through company. Under these circumstances, attrition will be more severe for a flow-through company than it will be for a normalized company.

Trends In P/E Ratios

With respect to normalization versus flow-through, normalized companies have consistently sold at higher P/E ratios (Table I) than those of flow-through companies. This P/E ratio premium for normalization has ranged from 3% in 1961 to 20% in 1974. It is interesting to note that the average premium between 1960 and 1964 in favor of normalization was 4% when the effective tax rate difference between normalized companies and flow-through companies was only nine percentage points, i.e., 49% versus 40%. As the effective tax rate difference became somewhat greater in the late 1960s (Table I), the premium for normalized companies over flow-through companies increased to 6%; since 1969 this premium has risen to 8% concurrent with an increase in the spread between the effective tax rates between normalized companies and flow-through companies.

Trends In Dividend Yields

With respect to the yield on common stock (Table I), normalized companies have consistently had a lower yield in the market than flow-through companies. This means that normalized companies can raise a larger amount of money in the equity market for a given amount of dividends than a flow-through company. As a result, internally generated funds from retained earnings can be relatively larger for normalized companies. During the 1970s, the yield penalty for flow-through has averaged 7%.

Common Equity Costs

It might be suggested that the difference in P/E ratios between normalized companies and flow-through companies may not be due to the perceived difference in earnings quality but rather may reflect other differences between normalized companies and flow-through companies. For instance, it could be suggested that although the P/E ratios on normalized companies may be higher than that of flow-through companies, the flow-through companies conceivably might have lower payout ratios and therefore lower yields than that of normalized companies. However, the comparison of dividend market yields for normalized companies versus flow-through companies shows that the opposite is true (Table I). The yields of flow-through companies have generally been higher than that of normalized companies. Therefore, the higher P/E ratios for normalized companies cannot be attributed to higher yields inasmuch as their yields have actually been lower than that of flow-through companies between 1960 and 1975. In fact, the dividend payout ratios for both normalized companies and flow-through companies have been in a fairly narrow range. The difference in payout expressed as a percentage varied from 3% in which the payout ratio of flow-through companies was greater than that of the normalized company to the other extreme of 5% in which the payout ratio for the normalized companies was greater than that of the flow-through companies.

One could suggest that the normalized companies sell for higher P/E ratios because possibly their reported earnings have been depressed for various reasons whereas flow-through companies' earnings were not so depressed. If the earnings of normalized companies were depressed as compared to flow-through companies, the returns on book values would have been significantly lower than for flow-through companies. An examination of the last sixteen years (Table II), in fact, shows that in almost every year normalized companies earned slightly more on book value than did the flow-through companies. It was only in 1974 and 1975 in which the flow-through companies earned nearly the same on book value as did normalized companies. It is also interesting to note that the P/E ratio premiums for the normalized companies would be relatively greater if returns on book value were identical and market prices remained unchanged (Table II). This observation recognizes the fact that investors consider book value to be an important determinant of earning power as a consequence of regulatory constraints.

Senior Security Costs

Not only is the cost of equity affected by whether a company normalizes or flows-through deferred taxes, but also the cost of senior securities is affected. For instance, the pre-tax coverages of debt interest for flow-through companies in 1975 was approximately 50 basis points (.50 times) lower than that of normalized companies. Pre-tax coverages of total debt interest are one of the key measures used by the rating agencies in determining ratings for senior securities (Table VII). The better the debt rating, the lower the cost of senior securities for the utility.

Generally speaking, normalized companies have higher debt ratings than flow-through companies (Table III). Of 59 normalized companies in the Investors Management Compustat Tape having assigned debt ratings, the median rating was a split between a double-A and a single-A (one of the principal rating agencies would have rated the security double-A whereas the other one would have rated it a single-A). For 38 companies in which ratings were assigned for flow-through companies, we find that the median rating was a single-A. Expressed in another fashion, 48% of the normalized companies had ratings of double-A or better whereas only 23% of the flow-through companies had ratings of double-A or better. In fact, none of the flow-through companies had ratings higher than that of a double-A. By contrast only 12% of the normalized companies had ratings of triple-B or less whereas 24% of the flow-through companies had ratings of triple-B or less. This indicates, in our opinion, that the practice of flow-through as opposed to normalization not only has affected the cost of equity, as indicated earlier, but also has affected the cost of senior securities as shown by the tendency for flow-through companies to have lower debt ratings than normalized companies.

Summary

To sum up, rate levels for customers in the long run will be higher, in our opinion, for flow-through companies as compared to normalized companies for the following reasons: (1) the cost of new capital will tend to be higher than that for normalized companies, (2) the portion of new capital cost as a percent of embedded capital costs will tend to be higher since new capital will tend to represent a larger percentage of total invested capital, and (3) income tax expense recorded in the future will be more since a reserve for deferred taxes was not provided for in the past to offset the increased current tax payments arising out of the tax timing differences between book depreciation and accelerated tax depreciation.

Specifically, in our opinion, the cost of equity for flow-through companies as compared to normalized companies, assuming all other things being equal, would be some 5% to 10% higher. The larger figure would represent those situations where a flow-through company has a large percentage of reported earnings from flow-through accounting. As for the cost of senior securities, to the extent that normalized companies exhibit a tendency toward higher debt ratings than flow-through companies, this will be reflected in higher costs for either debt or preferred stock for flow-through companies. Since the median rating differences between flow-through companies and normalized companies appears to be that between a single-A and a split between single-A and double-A by the rating agencies , this would suggest higher cost of senior money for flow-through companies of possibly 10 to 30 basis points.

Assuming a hypothetical capital structure of 66% for senior securities and 34% for common equity and in which the cost of senior money is 8% while the cost of common equity is 13%, it would appear, in our opinion, that the overall cost of capital for a flow-through company is at least .25 to .50 percentage points higher than for a normalized company. In other words, if the cost of capital for a flow-through company is found to be 9.70%, then the cost of capital to a company normalizing (all other things being equal) would be 9.45% to 9.20% or less in our opinion. During periods of stress in the financial markets, the difference in the cost of financing would be greater.

CONSTRUCTION WORK IN PROGRESS

Background

Until recent years, the question of whether to include CWIP in the rate base for regulatory purposes and not accruing AFC on such CWIP was not significant. Investors recognized that AFC represented non-cash income that could not be used to pay interest or dividends. However, until 1968 CWIP represented a relatively small portion of total plant investment of the electric industry and AFC as a percent of balance for common was under 10% (Table IV). Until that time, the cost of new plant on a per unit basis was often less than existing plant reflecting economies of scale. When such plant was placed in service, the cessation of AFC was offset by the ability of the new plant to earn sufficient income under existing rate levels to meet carrying charges. For instance, a new generating unit often would result in some improvement in the heat rate (generating efficiency) with a consequent downward reduction in fuel costs combined with the cessation of purchased power expense and/or temporary sale of power to other utilities; as a result the company's operating ratio tended to improve. This improvement tended to offset the impact of the decline in AFC that had been capitalized on the generating unit while it was under construction. Significantly improved generating efficiencies, i.e. heat rate, are no longer present.

The only significant problem or question that might have been raised with respect to AFC was the rate at which it was capitalized. For instance, if a company had capitalized AFC at a relatively high rate of 8% and the regulatory body previously had allowed only a 7½% rate of return in rate cases, then the placing of the new unit in service (unless it was able to earn an incremental return through operations higher than the allowed rate of return) would result in some reduction in earnings. However, this was not a significant factor in the sixties as most companies in the industry at that time followed a policy of capitalizing CWIP at 6%, which was generally lower than the rates of return permitted in formal or informal rate proceedings in those years.

Current Trends

The problem of CWIP and AFC has only come to be significant within the past five years as a consequence of the inflationary conditions affecting utilities' plant expenditures. On top of the inflationary environment, there was the impact of environmental requirements which had to be met and which had the effect of increasing even more the cost of new plant required to meet load growth. As a consequence, after a long period in which the investment cost per Kw for new generating plant was relatively stable such costs began to escalate very rapidly, with no letup in sight. A review of many preliminary security registration statements during 1976 tends to show that the projected cost per Kw for nearly identical units is escalating 5% to 15% per year. For instance, a unit scheduled for 1986 will cost roughly twice as much per Kw as a similar unit installed in 1976. The unit added in 1976 was considerably more expensive than units added previously and the overall system average cost per Kw.

As a result of these rapidly escalating costs for new plant, projected construction expenditures of the industry have risen sharply. External financing requirements have risen greatly as it follows that a sharp increase in construction outlays will not necessarily be matched immediately by a proportionate increase in internal cash generation. Thus, internal cash generation as a percentage of construction requirements declines. With sharply increased construction expenditures, investors become more concerned about the stability of future earnings inasmuch as the new plant being constructed will not be able to earn an adequate return on current rate levels. Current rates are designed on the basis of historical unit plant costs with such costs considerably lower than the incremental costs of new plant. As a by-product of escalating new plant costs, CWIP as a percent of plant investment naturally increases. For instance, if a company had to add new generating capacity every other year to meet two years of load growth at 7% a year, CWIP related to the new generating unit would, prior to the addition of the unit to service, represent about 14% of the generating plant account if there were no difference between the incremental cost of new plant versus historical average cost. However, if the incremental cost of new plant is double that of the systemwide historical average, then it follows that CWIP as a percent of the existing investment in generation will be double or equal 28% in the aforementioned illustration.

Furthermore, in addition to underlying escalating costs for new equipment, lead times have lengthened, partly as a result of various regulatory requirements, with the result that unit plant costs are raised further by the very fact that AFC is calculated over a longer period of time. In effect, with increased lead time total AFC, as a percent of the total cost of the new plant that is being built, is larger than what would have been the case some years ago when the construction cycle was shorter. The longer lead time in itself contributes to the increase in the incremental cost of the new plant and widens the disparity between the cost of new plant and the systemwide plant average. This widening disparity further increases the risk and uncertainty in a utility's ability to earn a return on the new plant under existing rates.

Earnings - Quality and Amount

As a natural consequence of sharply increased construction expenditures reflecting inflation and environmental requirements, CWIP is now a significant portion of the net plant investment and by definition a significant portion of invested capital (Table IV). Because CWIP represents a larger portion of the net plant investment, and therefore invested capital, AFC is significantly larger than in the past and assumes a larger share of earnings available for capital and/or common stock (Table IV). A larger proportion of AFC results in lower quality earnings, because AFC is non-cash income. Because the new plant will not likely earn, under present rates, a return remotely equal to what present plant in service does, rate increases will be required in order to permit the new plant to earn an adequate return. The fact that a rate increase will be needed introduces an element of uncertainty in the minds of investors inasmuch as investors know from experience that regulation as practiced often results in regulatory lag.

Thus, many utilities have suffered significant declines in earnings when CWIP has been placed in service with the new plant in service failing to earn a reasonable return under the old existing rates. Rate relief to provide for adequate earnings is filed but such rate relief, even if it should be adequate, is often granted many months after the plant has been placed in service. As a result, the rate of return declines along with a drop in the equity return. In effect, plant in service additions (rate base) are not offset by proportionate increases in revenues. Thus, there is an element of instability and uncertainty to the overall earnings prospects for a given utility as a result of the need for rate relief to offset increased unit plant costs. The fact that CWIP becomes a significant portion of net plant along with a corresponding rise in

AFC as a percentage of the balance for common is a symptom or "red flag" of the increased earnings instability for the electric utility industry.

In years gone by when the cost of new equipment on a per unit basis was not significantly different from that already in place, the problem of CWIP and AFC was not considered material. Now the presence of a large amount of AFC in reported earnings is a warning to investors that a utility will need increased rates in order to maintain an acceptable level of return. Investors recognize that the regulatory process produces greater variation and instability in utility earnings compared to ten years ago when AFC in relation to overall earnings was relatively small.

Investors seeking appropriate returns always consider risk. The more risk there is for a given investment, the greater the return the investor requires. One of the principal elements of risk is found in the areas of earnings instability and unpredictability. To the extent that relatively large amounts of CWIP and AFC are signs of potential earnings instability, investors have imputed greater risk to electric utilities than was the case ten years ago.

Common Equity Costs - Dividend Yields

There are statistical limitations to quantifying with a high degree of precision the higher capital costs resulting from capitalizing AFC and excluding CWIP from the rate base. The problems associated with large amounts of AFC are relatively recent and became substantial within the past five years. Unlike the availability of two distinct, fairly large groups of individual utility companies practicing either normalization or flow-through accounting for long periods of time, there is not a significantly large sample available of companies that have been authorized to include all CWIP in rate base and not capitalize AFC for an extended period of time. Some companies have been permitted to include a portion of CWIP in rate base, and this adds to the problem of classifying the companies into sample groups. Also, the amounts of CWIP and AFC will vary with the construction cycle. Consequently, a company may have large amounts of CWIP and AFC in a given year but have small amounts the following year. The passage of one year could show a complete reversal in classification for a company. Using only the year-end data available for this study can be misleading also because the amount of CWIP can vary significantly within a given year. Nevertheless, based on our studies, it is our conclusion that large amounts of AFC increase the cost of capital.

For the industry as a whole, there is an indication that the increased amount of CWIP as a percentage of net plant and the corresponding increase of AFC as a percentage of earnings has had a negative impact on the overall cost of capital (Table IV). For instance, between 1960 and 1970 when AFC generally represented less than 20% of reported earnings available for common stock, the common stock dividend yields for electric utilities (normalized) on average equalled about 70% of the yields on double-A utility bond issues. After 1970 when AFC ranged from 25% to 39% of common stock earnings, the common stock dividend yields for electric utilities increased to an average of 93% of the yields on new utility double-A bonds. In 1971 and subsequently, the common stock dividend yields for electric utilities reflected increased uncertainty of earnings prospects; this higher risk was reflected in relatively higher common stock yields.

The peak occurred in 1974 when common stock dividend yields were 11.98% and bond yields were 9.64%, a 124% relative yield relationship. In that year, by the way, AFC represented nearly 39% of reported common stock earnings for normalized electric utilities (Table IV). In 1975, the yield relationship between utility stocks and bonds narrowed somewhat to 86%. However, this was still greater than anything that ever prevailed prior to 1973. This increase in the common stock dividend yields for electric utilities as compared to new issue double-A electric bond yields, in our opinion, is a reflection of the increased risk associated with electric utility common stock investments. As noted earlier, the increase in CWIP in the net investment and the increase in the percentage of AFC in reported earnings is a significant indicator of the increased risk inasmuch as AFC is a symptom of potential instability and unpredictability of future earnings. The non-cash aspect of AFC also introduces risk concerning interest and dividend paying ability.

Common Equity Costs - Earnings/Price Ratio

A similar comparison between the earnings/price ratio of electric utilities (normalized) with that of the common stock of AT&T shows a pattern similar to that of the common stock yields versus bond yields above (Table V). Both AT&T and the electric utility industry, one way or another, are regulated at the state and federal levels. However, AT&T, in common with the rest of the telephone industry, has not had the severe escalation in construction costs for new equipment and extended lead times that the electric utility industry has experienced. Improved technology has been beneficial in holding down construction outlays for the telephone industry, and expenditures for environmental purposes have not been large. Consequently, CWIP has not represented a significant portion of AT&T's net plant investment, and by the same token AFC as a percentage of the earnings available for AT&T's common stock has not reached the proportion that has prevailed for the electric utility industry in recent years. Thus, the investor perceived increased risk, for electric utility earnings associated with current high levels of CWIP and AFC in reported earnings, has been absent with respect to AT&T. Also, telephone companies have not shared the risks associated with fuel supplies that have been significant for some electric companies. Considering these factors, we have assigned only one-third of the equity cost of capital spread between electrics and AT&T to the difference in AFC levels.

For the years 1960 through 1971, the earnings/price ratio for normalized electric utilities averaged 97% of AT&T's earnings/price ratio (Table V). Subsequent to 1971 the earnings/price ratio for electric utilities has averaged 112% of AT&T's earnings/price ratio. The peak relationship was 126% in 1974 when AFC was 39% of earnings for electric utilities. The earnings/price ratio comparisons between the electric industry and AT&T declined somewhat to a still very large 121% in 1975.

Common Equity Costs - Summary

This increase in the common stock dividend yields for electric utilities as compared to double-A bond averages (Table IV), and the increase in the earnings/price ratio compared with the earnings/price ratio of AT&T reflects (Table V), in our opinion, the increase in the cost of common equity for the electric utility industry required by investors to reflect what investors perceive to be increased risk. As noted before, we believe that at least one-third of this increased risk is related to the inadequacy of the regulatory response in dealing with the need for electric utilities to immediately earn an adequate return when a significant part of CWIP is put into service.

Senior Security Costs - Trends

Within the bond markets themselves, it should be noted that the new issue yields for Moody's light, power, and gas bonds has increased substantially over that of telephone bonds in recent years (Table VI). Prior to 1970, new issue yields on telephone bonds and light, power, and gas bonds were nearly identical with variations of less than 30 basis points in yields. However, in 1972 light, power, and gas bonds on a new issue basis were nearly 40 basis points higher than that of telephone bonds and in 1975 the spread had increased to 70 basis points. Although part of the increased spread could be attributed to the recent downgrading of some electric utility bonds, the disparity in yields that existed in 1975 is greater, in our opinion, than that which could be accounted for by downgradings alone. For instance, in our opinion, the median electric utility industry bond rating falls somewhere between a double-A and a single-A currently whereas five years ago such a rating would have approximated double-A. Based on our judgment, roughly 10 to 35 basis points of the additional spread in yields between the telephone new issue bonds and the light, power, and gas group would likely be accounted for by the relative change in investment grades by the principal rating agencies. Therefore, we conclude that a large portion of the 70 basis point spread existing in 1975 between new issue telephone bonds and new issue light, power, and gas bonds would have to be attributed to the increased earnings instability and therefore risk for the electric utility industry.

Senior Security Costs - Analysis of 1975 Data

If CWIP is included in rate base and AFC is replaced with cash earnings, pre-tax income and coverage ratios would be greater assuming a constant rate of return. The reason for this improvement in coverage ratios is that AFC is a non-income tax item, but cash earnings are taxable. The 1975 pre-tax coverages of total debt interest for normalized electric companies, which were 2.66 times and 2.90 times excluding and including AFC, respectively, would become 3.14 times if AFC were discontinued and the rate of return remained constant assuming an effective tax rate of 50%. For flow-through companies, 1975 pre-tax coverages were 2.12 times and 2.42 times, excluding and including AFC, respectively, and would become 2.72 times if cash earnings were substituted for AFC.

Table VII shows the median coverage ratios in 1975 by grade of security. For instance, bonds with a split rating between double-A and single-A had median coverages of 2.6 times to 2.9 times, or about the same as the average for all normalized electric companies as discussed previously. After the pro forma adjustment to eliminate AFC, the new coverage figure of 3.14 times corresponds to the 3.0 times to 3.3 times shown for the straight double-A bonds.

Likewise, in 1975 flow-through companies had a median bond rating of single-A which corresponded with the median coverages shown on the table of 2.1 times to 2.4 times. Adjusting the pre-tax coverage figure to substitute cash earnings for AFC, the coverage figure of 2.72 times would be comparable with the split-rated (double-A and single-A) median of 2.6 times to 2.9 times.

Senior Security Costs - 1976 Bond Financings Analysis

We made an analysis of the relationship of bond ratings to the proportion of AFC for the year 1976 (Table VIII). A company's financial condition is analyzed by the bond rating agencies at the time of each new financing. Therefore, we compared the bond ratings with the amount of AFC for the companies which sold bonds in 1976. This analysis showed that the bond rating tends to be lower as the proportion of AFC income increases. For companies rated double-A or higher by both Moody's and Standard & Poor's, the amount of AFC related to pre-tax operating income was about 10%. For weaker-rated companies the average was about 17%.

We conclude from this study that increasing the AFC to pre-tax income ratio from 10% to 17% could result in a bond rating reduction from strong double-A to weak single-A. The cost of debt financing for a weak single-A company can be from 25 to 100 basis points more than the cost for a strong double-A. The cost spread is much wider during periods of stress in the financial markets when investors are very risk concious. A large proportion of AFC increases the investment risk.

Senior Security Costs - Summary

The inclusion of CWIP in rate base would result in an improvement in coverages without any improvement in after-tax earnings or rate of return. In our opinion, this improvement in the level of coverages as well as the quality of coverages would eventually result in higher credit ratings than those now prevailing for the electric industry.

Although rating agencies consider many factors, both quantitative and qualitative, coverage ratios are probably the most significant quantitative factor. We believe that an improvement in coverages to the extent indicated above would result in an improvement in debt ratings and would result in lower debt costs for electric utilities which include CWIP in rate base and do not capitalize AFC.

Capital Costs - General Trends

We attempted to statistically quantify the impact of AFC on the cost of equity capital for individual companies using available data for the year 1975 only. For individual electric utilities there did not appear to be any significant linear statistical correlation in 1975 between price/earnings ratios and the amount of AFC expressed as a percentage of earnings available for common equity (Table IX). Considering the statistical limitations discussed below, this result was not entirely unanticipated. Comparing only those companies that normalize deferred taxes (67 companies), some thirteen companies reported AFC representing less than 10% of earnings, another 28 companies recorded AFC representing between 10% and 30% of earnings while the remainder of 26 companies had AFC in amounts in excess of 30% of reported earnings. The 1975 P/E ratios for these three groups were 8.40, 8.37, and 7.87, respectively. Therefore, this analysis indicates that in 1975 the amount of AFC in reported earnings for individual companies had a minor impact on P/E ratios except when the amount of AFC reached 30% or more.

The lack of significant correlation for individual companies in this one year reflects, in our opinion, that at any given time individual electric utilities are in different phases of their construction programs. A company may have a relatively small amount of AFC in earnings in any given year because a substantial portion of a previously high level of CWIP may have been placed in service, and thus for the given year AFC is at a low point. On the other hand, another company may be at a high point in its construction cycle with a large amount of CWIP and a large amount of AFC in reported earnings. The passage of one year could show a complete reversal of roles by the two companies. In fact, the reversal could occur within a given year and not be revealed using year-end data. By contrast, the difference between companies that normalize and flow-through, in which the quality of reported earnings may be highlighted by the difference in effective tax rates, tends to persist over a number of years rather than to change between one year and the next or within a given year.

Many electric utilities have shown rather wide variability of earnings between one year and the next, depending on the construction cycle and the timing of rate relief being granted. Two examples will illustrate the instability of earnings arising out of CWIP not being included in the rate base and the related build-up of AFC prior to the placing in service of such plant.

Capital Costs - Specific Example - Iowa Electric Light and Power

Iowa Electric was engaged in a heavy construction and financing program during the early 1970s and during those years the Company's bond ratings were reduced from double-A to a split rating of A- and Baa. This credit downgrading represented a decline of one and one-half grades as compared to the one-half grade drop by normalized companies in general in recent years. Of course, the sharp deterioration of Iowa Electric's credit standing resulted in substantially higher debt costs.

The Company sold common stock in 1972, 1973, and 1976. In December 1972, the offering price was 114% of book value, while at the same date the Duff and Phelps Electric Average was 144% of book value. The next sale, in late 1973, was at 83% of book value at which time the Duff and Phelps Average was selling at 102% of book value. In both cases, as a result of its below average relation of book value compared to the industry, the Company had to issue 23%-26% more shares than it would have if the stock had been selling on a basis comparable to the Duff and Phelps Average. The 1976 sale, on the other hand, was at 83% of book value, at which date the Duff and Phelps Average was selling at about

93% of book value. This indicates a narrowing in the relative cost of common equity for Iowa Electric versus the Duff and Phelps Average compared to the early 1970's. At the end of 1972 and 1973, AFC as a percent of the balance for common was very large, 84% and 138% of earnings, respectively. By contrast, in mid-1976, AFC was under 10% of the balance for common.

Specifically, for the twelve months ending May 1974 the Company reported earnings of $1.51 per share, immediately prior to its placing in service nuclear capacity. Subsequent to the operation of this generating unit in June of 1974, earnings dropped precipitously month by month until by the end of May 1975 twelve month earnings amounted to only 6¢ per share. What occurred between June, 1974 and June, 1975 was that plant related costs of the nuclear unit increased operating expenses sharply while AFC, which had been accrued up to the date of the placing in service of this unit, ceased to be credited. With the rate base now including this nuclear unit, operating earnings became insufficient to provide the necessary return and, since rate relief was not forthcoming, earnings dropped precipitously. Ultimately the Company obtained rate relief to reflect this new unit and earnings since then have recovered and recently were reported at $1.79 for the twelve months ended September 1976.

For this particular situation as an example, if CWIP had been allowed in the rate base and no AFC had been accrued, some rate increase would have been granted prior to the placing of this unit in service. The ultimate amount of rate relief required in comparison with prior existing rate levels, however, would have been less, but yet the earnings trend between 1973 and 1976 would have been considerably more stable and predictable than what actually occurred. Lower ultimate rate levels would prevail since CWIP would have been included in the rate base, and therefore, no AFC would have been accrued. The total cost of the unit would have been less and, by the same token, a smoother earnings trend would have been established since there would not have occurred the sharp decline in AFC of June, 1974.

This financing experience of Iowa Electric since the early 1970s is, in our opinion, another indication that the cost of capital is increased when the amount of AFC in reported earnings becomes excessively large.

Capital Costs - Specific Examples - State of Missouri

Despite no precise statistical correlation between the amount of AFC in reported earnings and price/earnings ratios for individual companies, there are other indications that point to market recognition of the desirability of including CWIP in the rate base and not crediting AFC. For example, in Missouri a proposition regarding CWIP was voted upon in November 1976. This proposition, which passed, prohibited the utility commission from including electric CWIP in the rate base in regulatory proceedings. Prior to the election, the Missouri Commission had authorized the inclusion of some CWIP in the rate base.

An examination of the stock market activity of the two major electric utilities operating in Missouri is illustrative of investor reaction and the impact on the cost of common equity of excluding CWIP from rate base (Table X). Prior to election day, the stock market price of Union Electric Company was equivalent to 31% of Standard & Poor's 40 Utilities Index. Kansas City Power & Light Company's common stock traded at 56%-57% of the Standard & Poor's 40 Utilities Index. After the election and the passage of the proposition, both stocks on heavy trading volume declined relative to that of the Standard & Poor's 40 Utilities. Union Electric dropped to 29% of the Standard & Poor's Index and Kansas City Power & Light traded at 53%-54% of the Standard & Poor's Utilities Index. The decline in common stock price for both companies relative to the Standard & Poor's Index approximated 5%-7% immediately following the election. This decline was 4%-5% the week after the election, suggesting a certain degree of additional and permanent investor perceived risk.

This decline is, in our opinion, a clear example illustrating the negative reaction on the part of investors to a situation where CWIP will henceforth not be allowed in the rate base and AFC will be accrued on CWIP. If the cost of common equity for these two companies was, for example, 13% before the election, the drop in price of the common stocks of the two companies would suggest that the cost of equity was increased by 5%-7%, or rose from 13% to 13.6%-13.9%.

Summary

Prior to recent years in which CWIP and AFC became significant portions respectively, of the net plant investment and reported earnings (Table IV), it was unusual for a year-to-year variation for a given utility's earnings to occur or to be pronounced. The illustrations cited above of increased instability of earnings, coverages, and market statistics for electric utilities in the face of larger amounts of both CWIP and AFC lead us to the conclusion that investors now perceive greater risks in the electric utility industry than what was true in the mid-1960s. Previous comments on the increased disparity in yields, both with respect to fixed income as well as earnings/price ratios of common stock, show investors now expect greater returns for electric utilities. This reflects investors' assessment of greater risks.

Based on our studies and our experience with investors, it is our opinion that the inclusion of CWIP in the rate base and the elimination of AFC from reported earnings would lead to a dimunition of risk as perceived by investors for the electric utility industry. The risk reduction would arise from the investors' recognition of improved earnings stability. Also, investors would recognize that the amount of future rate relief, all other things being equal, would tend to be less if CWIP was included in the rate base. The recognition by investors of a reduced rate requirement in the future would arise from the fact that: (1) the rate base growth would not be as rapid as it would be if AFC continued to be capitalized and (2) higher internal cash generation with CWIP in rate base would reduce external financing requirements.

The reduction in future rate relief requirements because of higher internal cash generation as a percentage of construction outlays would, as stated, reduce the need somewhat of new outside capital at currently high incremental money costs. Therefore, both the embedded cost of capital and rate base would rise at a lesser rate. Any action that leads to a reduction in the perceived amount of required rate relief will be viewed positively by investors and contribute to lower risk. This positive view arises from considering two factors: (1) the ability of the industry's actual returns to more nearly converge on the regulatory allowed returns than under present conditions and (2) greater stability in year-to-year changes in reported earnings and coverage ratios of interest charges.

These factors reducing risk should then lead to a reduction in the cost of capital, compared to the situation in which CWIP is excluded from the rate base and AFC is included as a part of earnings. Based on our studies, we believe that the cost of debt alone could be from 20 to 70 basis points higher, depending upon the condition of the financial markets, if AFC is utilized. This judgment is based on the earlier discussion of yield spread between new issue bonds of the light, power, and gas group versus telephone bonds and the likely improved bond rating with less AFC.

With respect to the cost of common equity, if one assumes that the increased spread in earnings/price ratios between the telephone industry and the electric industry (normalized companies) shown earlier was due in part to investors reflecting the industry's increased instability of earnings, then the inclusion of CWIP in the rate base and the elimination of AFC from reported earnings should lower the earnings/price ratio by increasing earnings stability. If one-third of the increase in spread since 1971 were removed, upwards of 50 to 70 basis points (or .5 to .7 percentage points) in the earnings/price ratio would be eliminated. At the end of 1975, normalized electric companies sold 210 basis points higher than AT&T whereas prior to 1972 (excluding two years) the earnings/price ratio was equal to or lower than that of AT&T. In effect, we are assuming only a one-third reduction in the spread due to the beneficial effect of eliminating AFC in reported earnings and replacing it with cash earnings. Assuming a capital structure having an equity ratio of one-third and fixed income securities for the balance, the possible increase in overall cost of capital for the industry could amount to roughly 30 to 70 basis points (.30 to .70 percentage points) if AFC is utilized. Such an increase in the investor's required return would result, over the long run, in higher rate levels than where CWIP is included in the rate base and AFC is not capitalized.

Of further interest is the fact that many of the fixed income security indentures have provisions in which certain earnings tests have to be met before additional borrowing is permitted. These earnings tests are usually in the form of coverage requirements in which total debt interest or total debt interest and preferred dividends have to be earned by a minimum ratio of such charges. The earnings available to meet this test are often defined so as to include other income equal to no more than 10%-15% of operating income with AFC usually regarded as other income. Therefore, if AFC as a percentage of other income rises beyond a certain point, it is not available by contract to meet the specified earnings test. Thus, in recent years, several utilities have run into financing limitations inasmuch as operating earnings alone failed to meet applicable earnings tests. The inclusion of CWIP in the rate base and the elimination of AFC from reported earnings would overcome this contractual problem of earnings coverages.

Supplemental Comments - Bond Rating Agency Opinions

It is important to note that the credit rating agencies are aware of these problems and emphasize the need for cash flow protection of interest payments and timely repayment of principal in arriving at their bond ratings. For example, a quote from Standard & Poor's Fixed Income Investor dated January 3, 1976 is as follows:

> "Although we have little interest in becoming embroiled in the theoretical argument of whether or not present customers should pay for needs of future customers, we recognize that the practical effort of inflationary conditions is that the rate-making procedures of flow-through accounting and accrual of a AFDC (Allowance For Funds Used During Construction) exacerbate already serious cash flow problems for growing, capital-intensive companies, resulting in deterioration in debt safety parameters and credit ratings."

In the July 24, 1976 issue, further insight into Standard & Poor's views was provided by the following:

> "Cash flow protection is being emphasized to an increasing extent, where cash earnings differs meaningfully from reported earnings. In terms of fixed charge coverage, we are paying more attention to pre-tax coverage exluding Allowance For Funds Used During Construction in cases where allowances make up more than 10% of pre-tax coverage. Our analysis here is influenced by an evaluation of the reliability and visibility of regulatory climate which makes an important difference in evaluating the true risk in CWIP."

Moody's Investors Service, Inc. expressed its opinion on this subject in the January 5, 1976 edition of Moody's Bond Survey which stated:

> "We believe it is worth mentioning that most indentures are silent with regard to the inclusion of Allowance For Funds Used During Construction in earnings as defined therein. However, this one insignificant accounting item has become substantial in size, and in most instances is included as an earnings credit for indenture coverage purposes. There are many who question the quality of such earnings credits, and their acceptance has allowed some companies to finance via bonds where otherwise they would not have been permitted to do so. The difference naturally varies from company to company, but, for the industry in general, these credits now account for over 10% of interest coverage. This, in our opinion, makes so-called circumventive financing all the more questionable."

It concerns us greatly that behind the satisfaction of the mortgage indenture test of two-times pre-tax earnings coverage of interest charges there lies a large accounting credit, and that, outside of the control of that test, there may be large amounts of other forms of debt. Any such situation would be a sure sign of weakness and would reflect upon a company's financial integrity."

Our opinion based on experience advising and consulting with investors conforms with the opinions expressed by the bond rating agencies. It is our conclusion that flow-through of tax timing differences and capitalizing AFC result in higher investment risks and higher cost of capital.

Duff and Phelps, Inc.

TABLE I

COMPARISON OF P/E RATIOS, DIVIDEND YIELDS, AND TAX RATES FOR ELECTRIC UTILITY COMPANIES

Year	P/E Ratios N	P/E Ratios FT	P/E Ratios Premium (%)	Yields N	Yields FT	Yields Discount (%)	Effective Federal Income Tax Rate (Before AFC) N (%)	Effective Federal Income Tax Rate (Before AFC) FT (%)
1975	8.20	7.41	10.7	8.35	9.15	8.7	49.1	16.5
1974	6.72	5.62	19.6	11.98	12.94	7.4	41.7	9.0
1973	8.80	8.49	3.7	7.75	8.29	6.5	41.3	14.1
1972	11.36	10.71	6.1	5.82	6.20	6.1	41.0	19.2
1971	12.40	12.12	2.3	5.65	6.12	7.7	39.6	22.4
Five Year Average 1971-75:			8.5			7.3	42.5	16.2
1970	12.93	12.25	5.6	5.49	5.86	6.3	40.9	20.4
1969	12.30	11.36	8.3	5.73	5.89	2.7	44.5	29.4
1968	15.76	14.92	5.6	4.49	4.64	3.2	45.4	33.0
1967	14.80	13.76	7.6	4.66	4.89	4.7	41.5	32.1
1966	16.30	15.60	4.5	4.15	4.36	4.8	42.1	33.4
Five Year Average 1966-70:			6.3			4.3	42.9	29.7
1965	19.59	18.40	6.5	3.44	3.72	7.5	42.7	33.2
1964	21.22	20.21	5.0	3.16	3.42	7.6	45.0	36.1
1963	20.64	19.88	3.8	3.29	3.52	6.5	48.5	37.4
1962	20.21	19.40	4.2	3.40	3.47	2.0	49.0	39.1
1961	22.95	22.21	3.3	3.12	3.27	4.6	49.8	42.1
Five Year Average 1961-65:			2.3			5.6	47.0	37.6
1960	19.40	18.22	6.5	3.72	3.88	4.1	50.0	42.9

Legend:
N - Normalized accounting; average for 70 companies.
FT - Flow-through accounting; average for 45 companies.
Premium - % by which N exceeds FT.
Discount - % by which N is less than FT.

Source: Compustat Utility Reports

TABLE II

COMPARISON OF P/E RATIOS AND RETURNS FOR ELECTRIC UTILITY COMPANIES

	P/E Ratios			Return on Common Equity Book Value			Normalized P/E Premium Assuming Same Return on Book Value
Year	N	FT	Premium (%)	N (%)	FT (%)	Premium (%)	(%)
1975	8.20	7.41	10.7	10.9	10.8	0.9	11.7
1974	6.72	5.62	19.6	9.8	9.8	0.0	19.6
1973	8.80	8.49	3.7	11.1	10.3	7.8	11.7
1972	11.36	10.71	6.1	11.6	11.1	4.5	10.8
1971	12.40	12.12	2.3	11.2	10.1	10.9	13.5
Five Year Average 1971-75:			8.5			4.8	13.5
1970	12.93	12.25	5.6	11.3	10.7	5.6	11.5
1969	12.30	11.36	8.3	11.5	11.2	2.7	11.1
1968	15.76	14.92	5.6	11.6	11.3	2.7	8.4
1967	14.80	13.76	7.6	11.8	11.5	2.6	10.4
1966	16.30	15.60	4.5	11.9	11.4	4.4	9.1
Five Year Average 1966-70:			6.3			3.6	10.1
1965	19.59	18.40	6.5	11.8	11.1	6.3	13.2
1964	21.22	20.21	5.0	11.6	10.9	6.4	11.7
1963	20.64	19.88	3.8	11.3	10.6	6.6	10.7
1962	20.21	19.40	4.2	11.1	10.7	3.7	8.1
1961	22.95	22.21	3.3	10.6	10.1	5.0	8.4
Five Year Average 1961-65:			4.6			5.6	10.4
1960	19.40	18.22	6.5	10.6	9.9	7.1	14.0

Legend:
N - Normalized accounting; average of 70 companies.
FT - Flow-through accounting; average of 45 companies
Premium - % by which N exceeds FT.
Discount - % by which N is less than FT.

Source: Compustat Utility Reports

TABLE III

ELECTRIC UTILITY BOND RATINGS

1975

Rating	Normalized Companies (59) (%)	Flow-through Companies (38) (%)
Triple-A	5	0
Triple-A/Double-A	4	0
Double-A	39	23
Double-A/Single-A	10	8
Single-A	27	32
Single-A/Triple-B	3	13
Triple-B	8	24
Double-B/Lower	4	0
	100	100
Median	Double-A/Single-A	Single-A

Sources: Moody's and Standard & Poor's bond ratings at December 1975 for 59 normalized and 38 flow-through electric utilities.

TABLE IV

NORMALIZED ELECTRIC COMPANIES
COMMON STOCK VERSUS BOND YIELDS

Year	Normalized Electrics Common Stock Yields (1)	"Aa" Utility Bond Yields (2)	Percent Col. (1) to Col. (2) (3)	AFC as % of Electrics Earnings (4)	CWIP as % of Net Plant (5)
1975	8.35%	9.68%	86%	35%	20P
1974	11.98	9.64	124	39	19
1973	7.75	8.05	96	32	19
1972	5.82	7.30	80	29	18
1971	5.65	7.37	77	25	16
Five Year Average 1971-75:			93	32	18
1970	5.49	7.87	70	20	14
1969	5.73	8.99	64	14	12
1968	4.49	7.11	63	10	10
1967	4.66	6.81	68	7	8
1966	4.15	5.93	70	5	7
Five Year Average 1966-70:			67	11	10
1965	3.44	4.92	70	4	5
1964	3.16	4.50	70	4	5
1963	3.29	4.49	73	4	5
1962	3.40	4.32	79	5	NA
1961	3.12	4.69	67	5	NA
Five Year Average 1961-65:			72	4	
1960	3.72	4.97	75	6	NA

Source by Column: (1) Compustat Utility Reports.
(2) Moody's 1976 Public Utility Manual (December data).
(4) Edison Electric Institute Statistical Yearbooks.
(5) FPC Statistics of Privately Owned (Class A&B) Electric Utilities.

NA - Not available.
P - Preliminary

TABLE V

NORMALIZED ELECTRICS VERSUS
AMERICAN TELEPHONE AND TELEGRAPH
E/P RATIOS

Year	Norm. Electric E/P Ratios (1)	AT&T E/P Ratios (2)	Percent Col. (1) to Col. (2) (3)	AFC as % of Electrics Earnings (4)
1975	12.20	10.10	121%	35%
1974	14.91	11.80	126	39
1973	11.36	9.95	114	32
1972	8.80	8.23	107	29
1971	8.06	8.90	91	25
Five Year Average 1971-75:			112	32
1970	7.74	8.16	95	20
1969	8.13	8.22	99	14
1968	6.35	7.06	90	10
1967	6.75	7.53	90	7
1966	6.14	6.70	92	5
Five Year Average 1966-70:			93	11
1965	5.10	5.60	91	4
1964	4.71	4.74	99	4
1963	4.84	4.35	111	4
1962	4.94	4.96	100	5
1961	4.36	4.05	108	5
Five Year Average 1961-65:			102	4
1960	5.15	5.16	100	6

Source by Column: (1) Compustat Utility Reports (70 normalizing companies).
(2) Calculated from year-end P/E ratio.
(4) Edison Electric Institute Statistical Yearbooks.

TABLE VI

UTILITY BOND YIELDS WEIGHTED AVERAGES OF NEW ISSUES

Year	Light, Power, and Gas (%)	Telephone (%)	Risk Spread (%)
1975	9.97	9.27	7.6
1974	9.59	9.21	4.1
1973	7.91	7.84	0.9
1972	7.50	7.11	5.5
1971	7.70	7.45	3.4
Five Year Average 1971-75:			4.3
1970	8.79	8.72	0.8
1969	7.98	8.00	(1.2)
1968	6.80	6.55	3.8
1967	6.07	5.77	5.2
1966	5.53	5.51	0.4
Five Year Average 1966-70:			1.8
1965	4.61	4.61	0
1964	4.55	4.55	0
1963	4.40	4.29	2.6
1962	4.40	4.55	(3.3)
1961	4.72	4.63	1.9
Five Year Average 1961-65:			0.2
1960	4.72	4.76	(0.8)

Source: *Moody's* Public Utility Manual, 1976.
Risk Spread: % by which yields on *Light*, *Power* exceed *Telephone*.

TABLE VII

CORRELATION OF THE RATINGS OF ELECTRIC UTILITY LONG TERM DEBT AND AVERAGE COVERAGES

1975

Rating	Coverage #
Aaa or Equivalent (3)	3.3/3.5
Aaa & Aa (Split) (2)	3.6/3.7
Aa or Equivalent (32)	3.0/3.3
Aa & A (Split) (12)	2.6/2.9
A or Equivalent (31)	2.4/2.7
A & Baa (Split) (11)	2.1/2.4
Baa or Equivalent (16)	1.9/2.2

Source: 107 Electric utility companies on Duff and Phelps Bond List dated April 20, 1976 - arranged according to ratings assigned by two principal rating agencies (S&P and Moody's).

- Coverages are calculated on basis of the ratio of pre-tax earnings to interest charges. First coverage figure excludes allowance for funds in numerator while second figure includes allowance for funds.

TABLE VIII

Bond Ratings Versus AFC for 1976 Financings
(Normalized Companies Only)

Bond Rating Category (Moody's/S&P)	AFC as % of Income Before Taxes		AFC as % of Balance for Common	
	No.	Mean	No.	Mean
Aaa/AAA to Aaa/AA	3	10.9	3	16.6
Aa/AA	16	9.0	16	22.0
Aa/AA- to Aa/A	6	11.4	6	35.1
A/A	13	16.3	13	39.5
A/A- to A/BBB	5	18.1	5	44.1
Baa/BBB	5	16.8	5	45.2

Source: Duff and Phelps Financing Bulletins.

TABLE IX

ELECTRIC UTILITY
P/E RATIOS AT DECEMBER 31, 1975
NORMALIZED COMPANIES

P/E Ratios (Average)	% of AFUDC in Earnings
8.40 (13 companies)	10% or less
8.37 (28 companies)	10% to 30%
7.87 (26 companies)	30% or more

Source: Compustat Utility Reports.

TABLE X

IMPACT OF MISSOURI CWIP REFERENDUM

)ate L976)	Union Electric Company Market Price (1)	 Shares Traded (2)	Kansas City Power & Light Company Market Price (3)	 Shares Traded (4)	S&P 40 Utility Index (5)	Ratio to Column (5) of Column (1) (6)	 of Column (3) (7)
:t. 25	15.2	16,500	28.2	2,100	49.26	0.310	0.573
26	15.3	33,400	28.1	800	49.41	0.311	0.569
27	15.3	16,200	28.0	2,900	49.57	0.310	0.565
28	15.3	20,700	28.1	2,200	49.81	0.309	0.565
29	15.3	18,000	28.2	5,600	50.29	0.306	0.562
›v. 1	15.3	18,900	28.3	11,300	50.44	0.305	0.563
'erage 6 days)	15.3	20,617	28.2	4,150	49.80	0.309	0.566
'v. 2	Market Closed for Election - Missouri Referendum Passes						
v. 3	14.5	123,100	27.0	32,500	50.01	0.292	0.540
4	14.2	178,700	27.0	23,600	50.07	0.285	0.539
5	14.4	110,300	26.6	14,800	49.90	0.291	0.536
erage 3 days)	14.4	137,367	27.0	23,633	49.99	0.289	0.538
Increaseø	5.7*	566.0	4.4*	469.0	0.4	6.5*	4.9*
v. 8	14.5	61,600	26.4	6,400	49.57	0.295	0.535
9	14.6	36,500	26.7	8,000	49.97	0.295	0.538
10	14.6	35,200	27.0	9,900	49.89	0.296	0.541
11	14.6	33,300	26.7	2,000	49.99	0.295	0.538
12	14.7	32,200	26.7	5,200	50.11	0.297	0.536
ɜrage 5 days)	14.6	39,760	26.7	6,300	49.91	0.296	0.538
[ncrease≁	4.1*	92.9	4.7*	51.8	0.2	4.3*	4.9*

ʝend: ø - Comparison of 3 days following passing of Referendum to 6 days prior.

≁ - Comparison of week following election week with 6 days prior to election.

Columns (1) and (3) are by eighths, not decimal fraction.

rce by Columns: (1) through (4) - Wall Street Journal
(5) Standard and Poor's Trade and Securities - Statistics (December 1976 issue).