Volume 2B

Testimony and Schedules of Witnesses:

Robert Hevert

Return on Equity

Before the South Dakota Public Utilities Commission

In the Matter of the Application of Otter Tail Power Company

For Authority to Increase Rates for Electric Utility

Service in South Dakota

Docket No. EL08-_____

Exhibit___

RETURN ON EQUITY

Direct Testimony and Exhibit of

ROBERT B. HEVERT

October 31, 2008

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I. INTRODUCTION AND QUALIFICATIONS

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Robert B. Hevert. My business address is 293 Boston Post Road West, Suite 500, Marlborough, Massachusetts 01752.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT POSITION?

A. I am employed by Concentric Energy Advisors ("Concentric") as its President.

Q. ON WHOSE BEHALF ARE YOU SUBMITTING THIS TESTIMONY?

A. I am submitting this testimony on behalf of Otter Tail Power Company ("OTP" or the "Company"), a separate operating division of Otter Tail Corporation ("OTC").

Q. PLEASE BRIEFLY OUTLINE YOUR RESPONSIBILITIES AS PRESIDENT OF CONCENTRIC.

A. In addition to providing consulting services, my responsibilities at Concentric include the day-to-day management of the firm and, along with other senior officers, the development of the firm's resources and capabilities, the development of new business and clients, and assuring the quality of services delivered to our firm's clients.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND.

A. I hold a Bachelors degree in Business and Economics from the University of Delaware, and an MBA with a concentration in Finance from the University of Massachusetts. In addition, I hold the Chartered Financial Analyst designation.

Q. PLEASE DESCRIBE YOUR EXPERIENCE IN THE ENERGY AND UTILITY INDUSTRIES.

A. I have served as an executive and manager with other consulting firms (REED Consulting Group and Navigant Consulting, Inc.), and as a financial officer of Bay State Gas Company. I have provided expert testimony regarding strategic and financial matters, including the cost of capital, before the state utility regulatory agencies of Arkansas, Colorado, Maine, Massachusetts, Minnesota, New Hampshire, New Jersey, New Mexico, New York, Rhode Island, Texas, Utah, Vermont and Virginia, as well as the Federal Energy Regulatory Commission ("FERC"). In addition, I have advised numerous energy and utility clients on a wide range of financial and economic issues including both asset and corporate-based transactions. Many of those assignments have included the determination of the cost of capital for valuation purposes. I have included my resume as Exhibit __(RBH-1), Schedule 1 and a summary of testimony that I have filed in other proceedings as Exhibit __(RBH-1), Schedule 2.

Q. PLEASE DESCRIBE CONCENTRIC'S ACTIVITIES IN ENERGY AND UTILITY ENGAGEMENTS.

A. Concentric provides financial and economic advisory services to a large number of energy and utility clients across North America. Our financial advisory activities include merger, acquisition and divestiture assignments, due diligence and valuation assignments, project and corporate finance services, and transaction support services.

Our regulatory economic and market analysis services include utility ratemaking and regulatory advisory services, energy market assessments, market entry and exit analysis, and litigation support.

II. PURPOSE AND OVERVIEW OF TESTIMONY

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. The purpose of my Direct Testimony is to present evidence and provide a recommendation regarding the Company's return on equity ("ROE"), and to provide an assessment of the capital structure to be used for ratemaking purposes, as proposed in the Direct Testimony of Mr. Kevin C. Moug. My analysis and recommendations are supported by the data presented in Exhibit __ (RBH-1), Schedules 3 through 9.

Q. WHAT ARE YOUR CONCLUSIONS REGARDING THE APPROPRIATE COST OF EQUITY AND OVERALL RATE OF RETURN FOR THE COMPANY?

A. Based on the analyses I have performed in this proceeding, I recommend that the South Dakota Public Utilities Commission (the "Commission") authorize OTP the opportunity to earn an ROE of 11.25 percent. As described in greater detail later in my testimony, that recommendation is based on the use of several well-accepted methodologies. I also have concluded that the Company's projected test year capital structure, which includes 53.30 percent common equity, 3.60 percent preferred stock, 40.30 percent long-term debt and 2.80 percent short-term debt, is reasonable.

Q. PLEASE PROVIDE A BRIEF OVERVIEW OF THE ANALYSIS THAT LED TO YOUR CONCLUSIONS.

A. My analyses begin with consideration of the relevant regulatory structure and precedents. To determine the appropriate ROE, I have employed several well-accepted approaches including the constant growth form of the Discounted Cash Flow ("DCF") model, the Capital Asset Pricing Model ("CAPM") and the Risk Premium approach. My applications of the DCF model are based on a variety of analysts' growth projections, current indicated annual dividends, and actual stock price information. Similarly, my CAPM analysis is specified using historical and projected market data with respect to Treasury yields, Beta estimates from Bloomberg and Value Line, and market risk premia data from Morningstar, Inc. (formerly, Ibbotson Associates). Finally, my Risk Premium analysis is based on historical market data with respect to utility bond yields, and average authorized returns for electric utilities.

In applying and assessing the results of my DCF, CAPM and Risk Premium analysis, I considered several specific risks and trends, including the Company's substantial capital expenditure plan. I also considered the flotation costs associated with equity issuances. While I did not make a specific adjustment for any of these factors, they should be considered when determining where, within a reasonable range of returns, the Company's ROE rightly falls.

Finally, I considered the Company's proposed capital structure within the context of its pending capital expenditures, general industry trends and proxy group norms. Based on that review, I concluded that the Company's proposed capital structure is reasonable.

Q. HOW IS THE REMAINDER OF YOUR TESTIMONY ORGANIZED?

A. The remainder of my testimony is organized in seven sections. In Section III, I discuss the regulatory guidelines and financial considerations pertinent to the development of rate of return. Section IV provides an overview of current market conditions and the influence of these conditions on the recommended ROE. Section V explains my selection of a proxy group of integrated electric utilities. Section VI explains my analysis and recommendation of the appropriate ROE for OTP. Section VII provides a discussion of the business and economic risks to which OTP is exposed. Section VIII provides my assessment of the Company's proposed capital structure, and Section IX summarizes my conclusions.

III. REGULATORY GUIDELINES AND FINANCIAL CONSIDERATIONS

Q. PLEASE DESCRIBE THE GUIDING PRINCIPLES TO BE USED IN ESTABLISHING THE COST OF CAPITAL FOR A REGULATED UTILITY.

A. The United States Supreme Court's precedent-setting *Hope* and *Bluefield* cases established the standards for determining the fairness or reasonableness of a utility's allowed ROE. Among the standards established by the Court in those cases are: (i) consistency with other businesses having similar or comparable risks; and (ii) adequacy of the return to support credit quality and access to capital, while maintaining financial soundness. (Please refer to Appendix A.) It also is important to note that in *Hope*, the Court found that under the statutory standard of "just and reasonable" it is the result reached, as opposed to the method employed, which is controlling. Consequently, it is appropriate to consider a variety of approaches and data sources when arriving at a recommended ROE.

Based on those widely recognized standards, the Commission's order in this case should provide OTP with the opportunity to earn a ROE that is:

- Adequate to attract capital on favorable terms, thereby enabling OTP to provide safe, reliable service;
- Sufficient to ensure the financial soundness of OTP operations; and
- Commensurate with returns on investments in enterprises having comparable risks.

The allowed ROE therefore should enable OTP to finance capital expenditures on reasonable terms and optimize its financial flexibility over the period during which rates are expected to remain in effect.

Q. WHY IS IT IMPORTANT FOR A UTILITY TO BE ALLOWED THE OPPORTUNITY TO EARN A RETURN ADEQUATE TO ATTRACT CAPITAL AT REASONABLE TERMS?

A. There is a long history of precedent regarding the allowed return on equity, the role of capital structure, and the resulting cost of capital in the establishment of just and reasonable rates for utility services. Among the themes common to many federal and state cases is the principle that a utility's cost of capital (including its capital structure and allowed return on common equity) must be reflective of other enterprises having comparable risks acting independently in the financial markets. As noted elsewhere in my testimony, a return that is adequate to attract capital at reasonable terms enables the utility to provide safe, reliable service while maintaining its financial integrity. To the extent OTP is provided the opportunity to earn its market-based cost of capital, neither customers nor shareholders should be disadvantaged.

Q. PLEASE DISCUSS THE IMPORTANCE OF THE ALLOWED RATE OF RETURN FROM THE PERSPECTIVE OF THE CAPITAL MARKETS.

A. The financial community continues to put the utility industry under intense scrutiny. Both equity and credit analysts have placed increasing focus on financial metrics and business risks for all utility companies. In its 2007 utility outlook, for example, FitchRatings noted several operating and regulatory issues that are likely to affect utilities' credit profiles:

- Continuing exposure to high and volatile energy commodity costs.
- Rising unit costs and need for base rate increases and steady recovery of fuel costs, so regulatory risk remains high. Event risk of political backlash against tariff increases.
- Electric utilities' higher capital spending will result in increased external funding needs and add to rising unit costs of service.[1]

Equity analysts also have focused on increasing capital expenditures in terms of their potential to elevate both financial and regulatory risks. In a recent report, for example, Barclays Capital (formerly, Lehman Brothers) noted that:

> With the likelihood that the current capex [i.e. capital expenditure] cycle will result in balance sheet strain, increased regulatory risks, and heightened execution risk, investors will likely demand a higher equity risk premium, in our opinion.
>
> ****
>
> While we would remain somewhat cautious regarding regulated utilities as we move through the capital cycle for all the risk factors mentioned above, and would largely key off valuation metrics for the group as a whole, there are three differentiators within the group that we believe are significant: (1) quality of regulation; (2) rate case processes, and (3) market capitalization.[2]

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[1] FitchRatings, *U.S. Power and Gas 2007 Outlook for Key Credits*, Global Power/North America Special Report (25 January 2007), at 2.

[2] Lehman Brothers, Regulated Utilities, *Industry Overview, Consequences of the CapEx Cycle*, June 4, 2008, at 4. [clarification added]

Thus, the capital markets are very aware of authorized utility ROEs and regulatory policy as it relates to utilities' ability to maintain their financial integrity and fund capital expenditures. As a consequence, significant deviations between authorized ROEs and investors' expectations can influence a company's capital investment strategy by reducing the availability of internally generated funds and diminishing access to reasonably priced sources of external capital. This concern is particularly acute in the current capital market.

IV. CURRENT ECONOMIC CONDITIONS

Q. HOW DO ECONOMIC CONDITIONS INFLUENCE THE COST OF CAPITAL AND RETURN ON COMMON EQUITY?

A. The required cost of capital, including the ROE, is a function of prevailing and expected market conditions. Consistent with the *Hope* and *Bluefield* decisions, the authorized ROE for a public utility should allow the company to attract investor capital at reasonable cost under a variety of economic conditions. The ability to attract capital on favorable terms is especially important during a period in which electric utilities are being asked by customers and regulators to enhance and expand system reliability and capacity.

Q. HOW DOES THE CURRENT STATE OF THE FINANCIAL MARKETS AFFECT YOUR ANALYSES AND RECOMMENDATION?

A. As a result of the general dislocation in the financial markets, there is significant pressure on financial institutions and rating agencies to tighten credit standards and, as has been widely reported, even highly creditworthy companies are finding it difficult to access the capital markets. As a result, interest rates on longer-term, intermediate

quality corporate bonds have increased substantially, and the spread between Treasuries and corporate bonds has increased even more. As shown in Table 1 (below), while long-term Treasury bond yields have decreased by 75 basis points since August 2007 (which is generally considered to be the beginning of the ongoing credit contraction), interest rates on long-term intermediate quality corporate bonds actually increased by 213 basis points. As a result, the actual cost of long-term debt has increased by 288 basis points.

Table 1: Recent Credit Spreads[3]

	Difference: 10/10/2008 – 8/1/07	**October 10, 2008**	**January 2, 2008**	**August 1, 2007**
Moody's Baa	+ 2.13%	8.75%	6.45%	6.62%
30-Yr. Treasury	-0.75%	4.15%	4.79%	4.90%
Credit Spread	+2.88%	4.60%	1.66%	1.72%

Q. HOW HAVE EQUITY PRICES RESPONDED TO THE CONTINUING DISRUPTION IN THE CREDIT MARKETS?

A. Since August 2007, the broad market (as measured by the Dow Jones Industrial Average) has fallen by approximately 29.75 percent. The Dow Jones Utility Average has fallen by approximately 24.29 percent during the same time period (*see* Table 2, below). Importantly, those declines reflect the effect of the historical one-day gain that occurred on October 13, 2008.

Table 2: Equity Market Performance[4]

	Difference: 10/13/2008 – 8/1/07	**October 13, 2008**	**January 2, 2008**	**August 1, 2007**
Dow Jones Industrial Average	- 29.75%	9,387.61	13,043.96	13,362.37
Dow Jones Utility Average	- 24.29%	370.58	525.69	489.46

[3] Source: Federal Reserve Statistical Release H.15, Selected Interest Rates, data as of dates shown in Table 1. Federal Reserve data was not reported for October 13, 2008.

[4] Source: Yahoo! Finance.

Q. WHAT CONCLUSIONS DO YOU DRAW FROM THAT DATA?

A. Based on that data, it is apparent that investors' perceptions of risk and, therefore, their return requirements, have increased in both the corporate debt and equity markets. This is an important point to bear in mind in the determination of the Company's ROE: the fact that Treasury yields remain at comparatively low levels by historical standards does not indicate that the Company's cost of equity (*i.e.*, its ROE) is at commensurately low levels.

Q. HOW SHOULD CURRENT ECONOMIC CONDITIONS AND CAPITAL SPENDING PLANS INFLUENCE THE COMMISSION'S DECISION IN SETTING THE APPROPRIATE ROE FOR OTP IN THIS PROCEEDING?

A. The Commission should recognize that the authorized ROE in this proceeding will send a strong signal to the financial community concerning the ability of OTP to meet its capital needs during a period in which its capital investments are increasing, and both debt and equity investors are requiring higher rates of return. If investors perceive a supportive regulatory environment, as evidenced by an allowed ROE that compensates the Company at a level commensurate with its risk, OTP should be able to attract equity capital at a favorable cost. Alternatively, the Company will not be able to compete for capital on favorable rates if investors perceive that they are not being adequately compensated for the risks associated with owning equity in OTP relative to other utility stocks. Such a result ultimately would increase costs for consumers.

V. USE OF PROXY GROUP COMPANIES

Q. PLEASE EXPLAIN WHY YOU HAVE USED PROXY COMPANIES TO DETERMINE THE COST OF EQUITY FOR OTP.

A. The use of proxy groups is a widely employed analytical method to assist in estimating the cost of equity for a particular company. The methods most commonly used by financial analysts to estimate the cost of equity are based on company-specific market data and projections. Proxy groups are developed to ensure that the market-based information from which cost of equity estimates are derived reasonably represent the fundamental risks and prospects of the subject company. The primary benefit of using a proxy group, therefore, is that it serves to moderate the effects of unusual events that may be associated with any one company.

Q. HOW DID YOU SELECT THE COMPANIES INCLUDED IN YOUR PROXY GROUP?

A. Keeping in mind that my objective is to select a proxy group that is highly representative of the risks and prospects faced by OTP, I selected my proxy group based on the following criteria:

- I selected companies that Value Line classifies as Electric Utilities, which includes a group of 58 domestic U.S. utilities.
- Based on Beta estimates from Value Line and Bloomberg, I selected companies whose Betas fall within a reasonable range (plus or minus one standard deviation) of the group average.
- I excluded companies that do not pay cash dividends, because such companies cannot be analyzed using the DCF model (which is the primary method used in my analysis).

- I selected companies that are covered by at least two generally recognized utility industry equity analysts.
- I selected companies that have senior bond and/or corporate ratings of BBB- to AA.
- I selected proxy companies that are vertically integrated utilities (*i.e.*, utilities that own and operate regulated generating assets).
- I excluded companies whose regulated revenues and net income in 2007 comprised less than 60 percent of the respective totals for the company.
- I excluded companies whose regulated electric revenues represented less than 90 percent of total regulated revenues.
- I excluded companies whose coal-fired generation constituted less than 10 percent of the generation resource portfolio.
- Finally, I eliminated any companies that are currently known to be party to a merger, or other significant transaction.

Q. DID YOU INCLUDE OTC IN YOUR ANALYSIS?

A. No. While OTC is categorized as an electric utility, it has significant non-regulated operations that provide a substantial portion of both its earnings and revenues. Therefore, OTC was eliminated by my screening criteria. Further, in order to avoid the circular logic that otherwise would occur, it is my practice to exclude the subject company from the proxy group.

Q. WHY IS IT IMPORTANT TO CONSIDER ONLY COMPANIES WHOSE RESOURCE PORTFOLIOS INCLUDE COAL-FIRED GENERATING ASSETS?

A. OTP's operations are heavily dependent on coal-fired generation (over 90 percent of kilowatt-hours generated in 2007 and 2006[5]). In general, capital-intensive baseload

[5] Otter Tail Corp, Form 10-K, for the period ending December 31, 2007, at 7.

generation assets such as coal-fired plants face risks associated with capital recovery in the event of market structure changes or plant failure, or replacement cost recovery in the event of extended or unplanned outages. In addition, coal-fired assets may require significant increases in capital requirements to comply with changes in environmental policies. In my view, therefore, it is important to exclude companies that do not have at least a modest amount of coal-fired generation in their resource portfolio.

Q. BASED ON THE CRITERIA DISCUSSED ABOVE, WHAT IS THE COMPOSITION OF YOUR PROXY GROUP?

A. The criteria discussed produce resulted in a proxy group of the following eleven companies:

- American Electric Power
- Cleco Corp.
- Edison International
- Empire District Electric
- Entergy Corp.
- IDACORP, Inc.
- Northeast Utilities
- Pinnacle West Capital
- Portland General
- Progress Energy
- Westar Energy

Q. DO YOU BELIEVE THAT A TOTAL OF ELEVEN COMPANIES CONSTITUES A SUFFICIENTLY LARGE PROXY GROUP?

A. Yes, I do. The analyses performed in estimating the ROE are more likely to be representative of the subject utility's cost of equity to the extent that the chosen proxy companies are fundamentally comparable to the subject utility. Because all analysts use some form of screening process to arrive at a proxy group, the group, by definition, is not randomly drawn from a larger population. Consequently, there is no reason to place more reliance on the quantitative results of a larger proxy group simply by virtue of the resulting larger number of observations.

I realize that, because I am using market-based data, my analytical results will not necessarily be tightly clustered around a central point. Results that may be somewhat dispersed, however, do not suggest that the screening approach is inappropriate or the results less meaningful. Further, including companies whose fundamental comparability is tenuous at best, simply for the purpose of expanding the number of observations, does not add relevant information to the analysis. To that point, the New Hampshire Public Utility Commission recognized that comparability is more important than the size of the proxy group:

> [T]he DCF is an economic theory for which a more comparable sample, rather than a larger sample, produces results that are more likely to be representative of the subject utility. The size of the sample is irrelevant when, as here, the sample is not random.[6]

[6] Re: Verizon New Hampshire, 232 P.U.R. 4th 24 (N.H. P.U.C., 2004).

VI. DETERMINATION OF THE APPROPRIATE COST OF EQUITY

Q. PLEASE BRIEFLY DISCUSS THE COST OF EQUITY IN THE CONTEXT OF THE REGULATED RATE OF RETURN.

A. Regulated utilities rely primarily on common stock, long-term debt, and, to a far lesser extent, preferred stock to finance their permanent property, plant, and equipment. The rate of return for a regulated utility is based on its weighted average cost of capital, in which the cost rates of the individual sources of capital are weighted by their respective book values. While the costs of debt and preferred stock can be directly observed, the cost of equity (and the ROE) is market-based and, therefore, must be inferred from market-based information.

Q. HOW IS THE MARKET-BASED ROE DETERMINED?

A. The ROE is estimated by using one or more analytical techniques that use market-based data to quantify investor expectations regarding required equity returns. The results of those analyses are then considered in the context of incremental risks that are not reflected in the results of proxy group analyses. The resulting cost of equity serves as the ROE for ratemaking purposes.

Q. WHAT METHODS DID YOU USE TO DETERMINE OTP'S COST OF EQUITY?

A. For the purposes of my testimony, I have used the constant growth form of the DCF approach, the CAPM approach, and the Risk Premium approach.

Q. WHY IS IT IMPORTANT TO USE MORE THAN ONE METHODOLOGY WHEN CALCULATING THE COST OF EQUITY?

A. Each of the models available to estimate the cost of equity is subject to its own set of assumptions or constraints. For example, while the single-stage DCF model uses market-derived yield data, it also assumes a constant growth rate in perpetuity. Similarly, the CAPM employs observable market data for bond yields, but requires judgment regarding the selection of the beta estimates. Consequently, many finance texts recommend using multiple approaches when estimating the cost of equity. Copeland, Koller and Murrin,[7] for example, suggest using the CAPM and Arbitrage Pricing Theory model, while Brigham and Gapenski[8] recommend the CAPM, the DCF, and the Risk Premium approaches.

While there may not be consensus among practitioners or academics as to the effectiveness of each model, the underlying methodologies of all seek to address the same fundamental question: how do you quantify unobservable investor expectations and return requirements? One means of addressing that question is to understand the methodologies used by the analysts currently active in equity markets and investments. In that regard, a 1999 article in *Financial Analysts Journal* concluded that the DCF and CAPM models were widely used by analysts; 42 percent of the survey respondents viewing the DCF model as very important or moderately important, while 31 percent had the same two opinions of the CAPM.

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[7] Tom Copeland, Tim Koller and Jack Murrin, *Valuation: Measuring and Managing the Value of Companies*, 3rd ed. (New York: McKinsey & Company, Inc., 2000) 214.

[8] Eugene Brigham, Louis Gapenski, *Financial Management: Theory and Practice*, 7th Ed. (Orlando: Dryden Press, 1994) 341.

A. Cost of Equity under the DCF Approach

Q. ARE DCF MODELS WIDELY USED TO DETERMINE THE ROE FOR REGULATED UTILITIES?

A. Yes. DCF models are widely used in regulatory proceedings and have sound theoretical bases, although neither the DCF model nor any other model can be applied without considerable judgment in the selection of data and the interpretation of results. In its simplest form, the DCF model expresses the cost of equity as the sum of the expected dividend yield and long-term growth rate.

Q. PLEASE DESCRIBE THE CONSTANT GROWTH DCF APPROACH.

A. The DCF approach is based on the theory that a stock's market price represents the present value of all future expected cash flows. In its most general form, the DCF model is expressed as follows:

$$P_0 = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + ... + \frac{D_\infty}{(1+k)^\infty} \quad [1]$$

where P_0 is today's stock price, D_1 ... D_∞ are all expected future dividends, and k is the discount rate, or required ROE. Equation [1] is a standard present value calculation, which can be simplified and rearranged into the familiar form:

$$k = \frac{D(1+g)}{P_0} + g \quad [2]$$

Equation [2] is often referred to as the "Constant Growth DCF" model in which the first term is the expected dividend yield and the second term is the expected long-term growth rate.

Q. WHAT ASSUMPTIONS ARE REQUIRED FOR THE DCF MODEL?

A. The DCF model requires the following assumptions: (i) a constant average growth rate for earnings and dividends; (ii) a stable dividend payout ratio; (iii) a constant price-to-earnings multiple; and (iv) a discount rate greater than the expected growth rate. To the extent that any of these assumptions are violated, considered judgment and/or specific adjustments should be applied to the results.

B. Dividend Yield for the DCF Model

Q. PLEASE SUMMARIZE THE ELEMENTS USED TO CALCULATE THE DIVIDEND YIELD COMPONENT IN YOUR DCF MODEL.

A. The dividend yield component is based on the proxy companies' current dividends and average closing stock prices over three separate periods of time, the most recent 30, 90 and 180 trading days ending October 13, 2008.

Q. WHY DID YOU USE THE AVERAGE STOCK PRICES OVER THREE PERIODS TO CALCULATE THE DIVIDEND YIELD?

A. While in theory the current (or spot) stock price can be used to calculate the current dividend yield,[9] the average stock price should be representative of expected market conditions over a longer term, and should not be skewed by recent unusual or anomalous circumstances. Over the past year, the market has reacted sharply to short-term events that have resulted in significant declines in stock prices and corresponding increases in dividend yields. Therefore, by using the 30, 90 and 180-day averages, I am able to ensure that the DCF model results reflect more recent economic events and

[9] *See*, for example, J. Fred Weston and Eugene F. Brigham, *Essentials of Managerial Finance*, 9th ed. (Fort Worth: Dryden Press, 1999) 656.

financial market conditions, without unreasonably biasing the analytical results based on anomalous circumstances.

Q. DID YOU MAKE ANY ADJUSTMENTS TO THE DIVIDEND YIELD TO ACCOUNT FOR PERIODIC GROWTH IN DIVIDENDS?

A. Yes. Since utility companies tend to increase their quarterly dividends at different times throughout the year, it is reasonable to assume that such increases will be evenly distributed over calendar quarters. Given that assumption, it is reasonable to apply one-half of the expected annual dividend growth for the purposes of calculating the expected dividend yield component of the DCF model. This adjustment ensures that the expected dividend yield is representative of the coming 12-month period and does not overstate the aggregate dividends to be paid during that time. Accordingly, the DCF estimates provided in Exhibit __ (RBH-1), Schedule 3, reflect only one-half of the expected growth in the dividend yield component of the model.

C. Growth Rates for the DCF Model

Q. IS IT IMPORTANT TO SELECT APPROPRIATE MEASURES OF LONG-TERM GROWTH IN APPLYING THE DCF MODEL?

A. Yes. In its constant growth form, the DCF model (*i.e.*, Equation [2]) assumes a single growth estimate in perpetuity. Accordingly, in order to reduce the long-term growth rate to a single measure, one must assume a constant payout ratio, and that earnings per share, dividends per share, and book value per share will all grow at the same constant rate. Over the long run, however, dividend growth and capital appreciation are sustained by earnings growth. As noted by Brigham and Houston:

> Growth in dividends occurs primarily as a result of growth in *earnings per share* (EPS). Earnings growth, in turn, results from a number of factors, including (1) inflation, (2) the amount of

earnings the company retains and invests, and (3) the rate of return the company earns on its equity (ROE).[10]

Therefore, for the purposes of the constant growth form of the DCF model, growth in earnings represents the most reasonable measure of long-term growth.

Q. DID YOU INCLUDE EXPECTED DIVIDEND OR BOOK VALUE GROWTH IN THE GROWTH RATE COMPONENT OF YOUR DCF MODEL?

A. No, I did not. Dividend growth rates are unlikely to provide meaningful insight as to investors' long-term growth expectations for utilities. Capital allocation decisions that companies may make in response to short-term changes in the business environment may directly affect short-term dividend payout rates. Further, short-term dividend payout policies change with changes in management's perception of business risks. In contrast, the DCF model is based on long-term growth rates. To the extent that payout ratios do not remain constant, the DCF assumptions of perpetual constant payout and growth are violated. Moreover, it is growth in earnings that will support future dividends and share prices and as such, earnings growth provides the more meaningful guide to investors' long-term growth expectations. Similarly, I did not include book value growth rates in my DCF analysis because it too is derivative of earnings growth. In addition book value growth is a function of retained earnings, which itself is the reciprocal of dividend payouts. As such, book value growth rates may be susceptible to the same concerns as dividend growth rates.

[10] Eugene F. Brigham and Joel F. Houston, *Fundamentals of Financial Management*, at 317 (Concise Fourth Edition, Thomson South-Western).

Q. IS IT CONVENTIONAL PRACTICE TO RELY ON ANALYSTS' FORECASTS AS THE BASIS OF GROWTH RATE PROJECTIONS?

A. Yes. The cost of equity is a forward-looking concept that focuses on investor expectations regarding future returns. The estimation of such returns, therefore, should be based on forward-looking or projected data. Indeed, substantial academic research has demonstrated the relationship between analysts' forecasts and investor expectations.[11] Other academic research has pointed to the use of both consensus earnings forecasts, and Value Line in particular, as widely used sources of analyst growth forecasts.[12] In my view, therefore, Value Line, and Zacks (the latter of which is a consensus forecast estimate) provide appropriate sources of earnings growth forecasts.

Q. PLEASE SUMMARIZE YOUR APPLICATION OF THE CONSTANT GROWTH DCF MODEL.

A. I applied the DCF model to my proxy group, using the following inputs:

1. The average daily closing prices for the 30, 90 and 180 trading days ended October 13, 2008, for the term P_0;
2. The annualized dividend per share as of October 13, 2008, for the term D_0; and

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[11] In *The Risk Premium Approach to Measuring a Utility's Cost of Equity*, published in Financial Management, Spring 1985, Brigham, Shome and Vinson noted that "evidence in the current literature indicates that (i) analysts' forecasts are superior to forecasts based solely on time series data, and (ii) investors do rely on analysts' forecasts." Similarly, in a review of literature regarding the extent to which analyst forecasts are reflected in stock prices (*Using Analyst's Growth Forecasts to Estimate Shareholder Required Rates of Return*, Financial Management, Spring 1986), Harris noted: "VanderWeide and Carleton recently compare consensus [financial analyst forecasts] of earnings growth to 41 different historical growth measures. They conclude that 'there is overwhelming evidence that the consensus analysts' forecast of future growth is superior to historically-oriented growth measures in predicting the firm's stock price…consistent with the hypothesis that investors use analysts' forecasts, rather than historically-oriented growth calculations, in making stock buy and sell decisions.'"

[12] *See*, for example, Christofi, Lori and Moliver, "Evaluating Common Stocks Using Value Line's Projected Cash Flows and Implied Growth Rate," *Journal of Investing* (Spring 1999); and Harris and Marston, "Estimating Shareholder Risk Premia Using Analysts' Growth Forecasts," *Financial Management 21* (Summer 1992).

3. The average of: (a) the Zacks company-specific earnings growth forecast; and (b) the Value Line company-specific earnings growth forecast for the term *g*.

Q. DID YOU CALCULATE A RANGE OF RESULTS?

A. Yes. I calculated the high mean DCF result using the maximum growth rate (*i.e.*, the higher of the Value Line EPS and the Zacks EPS growth rates) in combination with the expected dividend yield for each of the proxy group companies. Thus, the mean high result reflects the average maximum DCF result for the proxy group. I used a similar approach to calculate the mean low results, using the lower of the Value Line EPS and the Zacks EPS growth rates for each proxy group company

Q. DID YOU UNDERTAKE ANY ADDITIONAL ANALYSES TO SUPPORT YOUR DCF MODEL RESULTS?

A. Yes. As noted earlier, I also used the CAPM and the Risk Premium approach as a means of assessing the reasonableness of my DCF results.

D. CAPM Analysis

Q. PLEASE DESCRIBE THE CAPM APPROACH YOU EMPLOYED.

A. As previously noted, the CAPM is a risk premium approach that specifies the required ROE for a given security as a function of a risk-free return plus a risk premium (to compensate investors for the non-diversifiable or systematic risk of security). As shown in Equation [3], the CAPM is defined by four components:

$$k_e = rf + B(r_m - rf) \quad [3]$$

where:

k_e = the required market return on equity
B = Beta of an individual security
rf = the risk free rate of return

r_m = the required return on the market as a whole

Here the term $(r_m - rf)$ represents the Market Risk Premium. According to the theory underlying the CAPM, since unsystematic risk can be diversified away, investors should be concerned only with systematic, or non-diversifiable risk. Non-diversifiable risk is measured by Beta, which is defined as:

$$\frac{Covariance(r_e, r_m)}{Variance(r_m)} \quad [4]$$

The variance of the market return is a measure of the uncertainty of the general market, and the covariance between the return on a specific security and the market reflects the extent to which the return on that security will respond to a given change in the market return.

Q. WHAT DID YOU USE FOR THE RISK-FREE RATE IN YOUR CAPM MODEL?

A. Since the DCF and CAPM models both assume long-term investment horizons, I used the yield on long-term Treasury securities as my estimate of the risk-free rate. In order to ensure that my CAPM results were not biased by my risk-free rate estimate, I used three different measures of long-term Treasury yields. First, I used the actual yield on 30-year Treasury bonds as the risk-free rate. To ensure that the results were not unduly influenced by market events, I used the average yield over a 30-day time period, which resulted in a risk-free rate of 4.22 percent, a 90-day period, which resulted in a risk-free rate of 4.45 percent, and a 180-day time period, which resulted in a risk-free rate of 4.47 percent.[13] I also used the projected yield on 30-year Treasury Bonds of 4.65 percent, as provided by the Blue Chip Financial Forecast.[14] According to Morningstar, from 1926 through 2007, the total return on long-term government bonds averaged 5.80 percent (arithmetic mean), and the total return on intermediate-

[13] *See* Exhibit___(RBH-1), Schedule 4.

[14] Blue Chip Financial Forecasts, Vol. 27, No. 10 October 1, 2008, at 2.

term government bond averaged 5.50 percent (arithmetic mean). In the context of long-term averages, therefore, the risk-free rate estimates used in my CAPM analyses are conservative.[15]

Q. WHY IS IT IMPORTANT TO USE THE LONG-TERM TREASURY RATE AS THE MEASURE OF THE RISK-FREE RATE?

A. For the purpose of the CAPM, it is important to select the term that best matches the life of the underlying investment. As noted by Ibbotson Associates:

> The horizon of the chosen Treasury security should match the horizon of whatever is being valued… If an investor plans to hold stock in a company for only five years, the yield on a five-year Treasury note would not be appropriate since the company will continue to exist beyond those five years.[16]

Because vertically integrated electric companies represent long-duration investments, it is appropriate to use yields on long-term Treasury bonds as the risk-free rate component of the CAPM.

Q. WHY IS IT IMPORTANT TO INCLUDE A CAPM SCENARIO BASED ON PROJECTED TREASURY YIELDS?

A. There is little question that the current credit and liquidity crisis has driven investors to seek the relative safety of Treasury securities. As a consequence, Treasury bond prices have been bid up, and the yields on those securities have fallen. (As Table 1 indicates, the yield on the 30-year Treasury bond fell by approximately 75 basis points since the beginning of the credit contraction.) If we were to focus entirely on a short-

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[15] Morningstar Ibbotson SBBI, 2008 Valuation Yearbook, at 28.

[16] *See* Ibbotson Associates, Stocks, Bonds, Bills and Inflation Valuation Edition, 2005 Yearbook, at 57.

term average of Treasury yields, the CAPM result would be considerably lower than would be expected under more normal market conditions. It is important, therefore, to consider both projected Treasury yields and longer averaging periods when applying the CAPM in the current market.

Q. PLEASE DISCUSS YOUR ESTIMATE OF THE EXPECTED MARKET RISK PREMIUM.

A. The calculation of the risk premium should be based on the longest period possible to avoid giving undue consideration to unusual market conditions. When historical risk premia are used, the arithmetic mean, which recognizes market uncertainty, should be used as the relevant long-term average. Morningstar data (from 1926 through 2007) indicates that the equity risk premium of the total return on large company stocks over the income only portion of long term government bonds is 7.10 percent.[17]

Q. WHY DO YOU USE THE ARITHMETIC MEAN, AS OPPOSED TO THE GEOMETRIC MEAN, AS THE RELEVANT LONG-TERM AVERAGE?

A. The arithmetic mean, as compared to the geometric mean, is the simple average of single period rates of return. The geometric mean is the compound rate that equates a beginning value to its ending value. The important distinction between the two methods is that the arithmetic mean assumes that each periodic return is an independent observation and, therefore, incorporates uncertainty into the calculation of the long-term average. In his review of literature on the topic, Cooper noted the following rationale for using the arithmetic mean:

> Note that the arithmetic mean, not the geometric mean is the relevant value for this purpose. The quantity desired is the rate of return that investors expect over the next year for the random

[17] Ibid., at 189.

> annual rate of return on the market. The arithmetic mean, or simple average, is the unbiased measure of the expected value of repeated observations of a random variable, not the geometric mean. … [the] geometric mean underestimates the expected annual rate of return.[18]

For purposes of my CAPM analysis, therefore, I have used the long-term arithmetic mean risk premium as reported by Morningstar, Inc. In his discussion of the use of arithmetic versus geometric means, Dr. Roger Morin provides a summary of this issue:

> Because valuation is forward-looking, the appropriate average is the one that most accurately approximates the expected future rate of return. The best estimate of expected returns over a given holding period is the arithmetic average…[O]nly arithmetic means are correct for forecasting purposes and for estimating the cost of capital.[19]

Consequently, the arithmetic mean is the appropriate measure of the market risk premium for use in the CAPM.

Q. WHAT SOURCE DID YOU USE TO DETERMINE BETAS FOR THE PROXY GROUP COMPANIES?

A. When considering alternative sources of Beta estimates, it is important to recognize that such estimates are based on historical data. Over time, Betas will to tend to regress toward the market mean of 1.0. Consequently, I have used adjusted Beta estimates from Value Line and Bloomberg, both of which adjust their Beta estimates based on an average of the raw, historical Beta and 1.0. This adjustment addresses the tendency of the CAPM to underestimate the cost of capital for companies with "unadjusted" or "raw" Betas significantly less than 1.0. For relatively low-Beta

[18] Ian Cooper, *Arithmetic versus geometric mean estimators: Setting discount rates for capital budgeting,* European Financial Management 2.2, (1996): 158.

companies such as regulated utilities, failure to take such adjustments into consideration will result in an understatement of required returns.

E. Risk Premium Analysis

Q. PLEASE DESCRIBE THE RISK PREMIUM APPROACH YOU EMPLOYED.

A. Risk premium approaches generally estimate the cost of equity as the sum of the equity risk premium and the yield on a particular class of bonds. Since the equity risk premium is not directly observable, it typically is estimated using one of a variety of approaches that themselves must incorporate an estimate of the cost of equity in the analysis. An alternative approach is to use the actual authorized ROEs for electric utilities as the historical measure of the cost of equity. Since both authorized ROEs and utility bond yields are directly observable, this approach substantially mitigates the estimation error.

Q. ARE THERE OTHER ANALYTICAL CONSIDERATIONS THAT SHOULD BE ADDRESSED IN CONDUCTING THIS ANALYSIS?

A. Yes. In my view, it is important to recognize both academic literature and market evidence indicating that the equity risk premium (as used in this approach) is inversely related to the level of interest rates. That is, as interest rates increase (decrease), the equity risk premium decreases (increases). Consequently, it is important to develop an analysis that (1) reflects the inverse relationship between interest rates and the equity risk premium and (2) is based on more recent market conditions. Such an analysis can be developed based on a regression of the risk premium as a function of Treasury yields. If we let authorized electric utility ROEs serve as the measure of required

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[19] Roger A. Morin, PhD, New Regulatory Finance, Public Utility Reports, Inc.; 2006, at 156.

equity returns and define utility bond yields as the relevant measure of interest rates, the risk premium simply would be the difference between those two points.[20]

Q. IS IT APPROPRIATE TO USE UTILITY BOND YIELDS AS THE MEASURE OF INTEREST RATES?

A. Yes. The use of utility bond yields as the relevant measure of interest rates also is important in the current economic environment. As noted earlier, while Treasury yields generally have continued to decrease, credit spreads have significantly increased. As such, the use of Treasury yields as the sole measure of interest rates may understate the current equity risk premium.

Q. WHAT DID YOUR RISK PREMIUM ANALYSIS REVEAL?

A. As shown on Chart 1 (below), from 1990 through September 2008 there was a strong negative relationship between risk premia and interest rates on utility bonds. To estimate that relationship, I conducted a regression analysis using the following equation:

$$RP = a + b(y) \qquad [5]$$

where:

RP = Risk Premium (difference between allowed ROEs and Moody's Baa Utility Bond Yield)

a = Intercept term

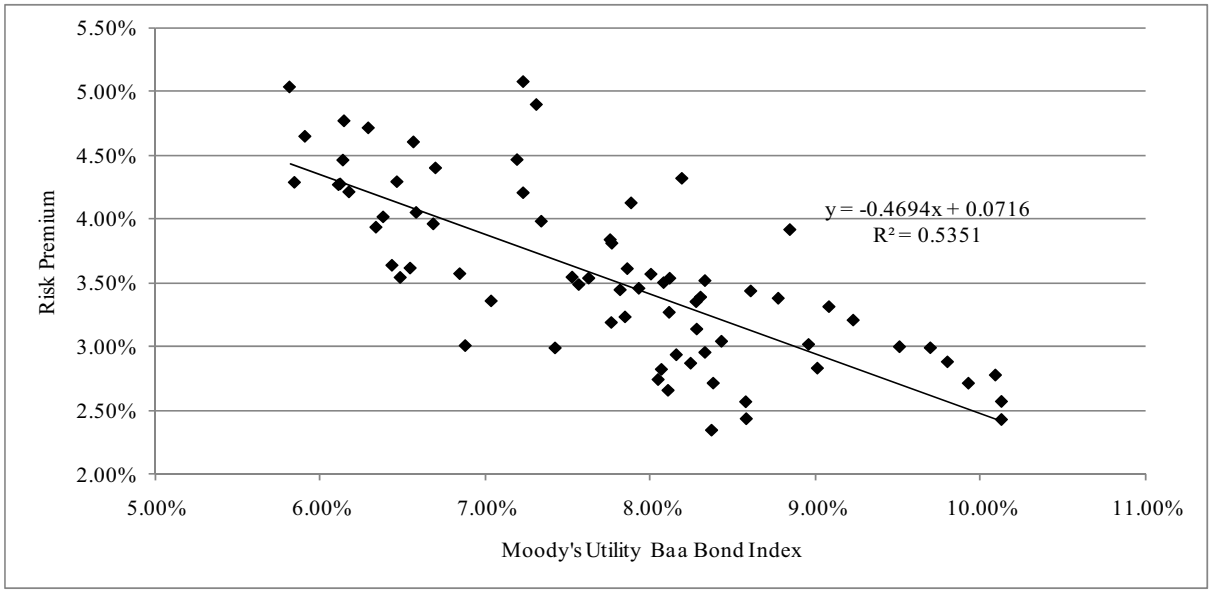
b = Slope term

[20] *See* for example, S. Keith Berry, *Interest Rate Risk and Utility Risk Premia during 1982-93*, Managerial and Decision Economics, Vol. 19, No. 2 (March, 1998), in which the author used a methodology similar to the regression approach described below, including using allowed ROEs as the relevant data source, and came to similar conclusions regarding the inverse relationship between risk premia and interest rates. *See* also Robert S. Harris, *Using Analysts' Growth Forecasts to Estimate Shareholders Required Rates of Return*, Financial Management, Spring 1986, at 66.

y = Moody's Baa Utility Bond Yield

Data regarding allowed ROEs was derived from 570 rate cases from 1990 through September 2008 (the most recent data available) as reported by Regulatory Research Associates. This equation and its coefficients were statistically significant.

Chart 1: Risk Premium vs. Moody's Baa Utility Bond Yield[21]



As shown on Exhibit ___ (RBH-1), Schedule 5, page 1, from 1990 through September 2008 the average risk premium was approximately 3.51 percent. In a period of relatively low interest rates, however, simply applying that average risk premium to the Treasury yield would understate the required equity return. For example, the average Moody's Baa Utility Bond Index yield for the 30 trading days ended October 10, 2008[22] was approximately 7.34 percent. Simply adding the average risk premium of 3.51 percent would result in an ROE of 10.85 percent. That simple application, however, would understate the ROE; based on the regression coefficients, the risk premium would be 3.71 percent, resulting in an ROE of 11.05 percent. As

[21] Sources: Regulatory Research Associates, SNL Database, accessed October 13, 2008 and Bloomberg.
[22] Moody's Baa Utility Bond Index was not reported for October 13, 2008.

shown in Exhibit ___ (RBH-1), Schedule 5, page 2, using historical measures of the Moody's Baa Utility Bond Index yield, the ROE would range from 10.82 percent to 11.05 percent, which is within the range of my CAPM analyses, although at the lower end of my DCF analyses.

It also is important to recognize that in the current financial environment, the ability for utility companies to attract capital, either debt or equity, becomes increasingly constrained on a daily basis. As a consequence, Risk Premium data as of October 10, 2008 (the last day of the data used in the Risk Premium analysis discussed above) does not necessarily reflect the rates that utility companies currently have to pay in order to complete a financing. Compounding the issue, due to a lack of liquidity, there are few instances in which utilities have issued debt and, therefore, few observations from which we can assess whether data as of October 10, 2008 reasonably reflects the current market environment. Nonetheless, I believe that in light of the current situation, it is important to understand the effect of the constrained liquidity on the cost of capital, even if we need to make inferences based on relatively limited data points.

In order to perform such an assessment, I conducted a search for recently issued long-term debt as of October 15, 2008. In doing so, I was able to identify a single issuance of Baa-rated utility debt. On October 15, 2008, Ohio Edison announced the issuance of $275 million in first mortgage bonds due in 2038 at an interest rate of 8.25 percent. These bonds are rated Baa1 by Moody's, and BBB+ by S&P. The interest rate at which these bonds were issued is significantly above the 30 day average of the comparable Moody's Baa Utility Bond Index as of October 10, 2008 of 7.34 percent (91 basis points above). In my view, this differential represents two elements of the current market environment. First, the data demonstrate the accelerating contraction of the credit market over a relatively brief period of time; the 30 day average

incorporates the trading days from August 29, 2008 to October 10, 2008. Second, this differential demonstrates the premium that high credit quality utilities currently are paying to access credit markets during this crisis. Importantly, the Moody's Index represents the current yield on currently outstanding utility debt. The 91 basis point spread between the 30 day average of the Moody's Baa Utility Bond Index and Ohio Edison's recent issuance of first mortgage bonds, is arguably the premium companies are paying to issue new debt in a difficult market.

Given the 8.25 percent rate of current long-term debt, as shown in Exhibit __ (RBH-1), Schedule 5, the equation coefficients produce a risk premium of 3.29 percent and a corresponding ROE of 11.54 percent. Again, I realize that this is only a single data point. In light of the current market conditions, however, I believe that such information is relevant in forming ROE recommendations.

F. Flotation Cost Recovery

Q. WHAT ARE FLOTATION COSTS?

A. Flotation costs are associated with the sale of new issues of common stock. These costs include, out-of-pocket expenses for preparation, filing, underwriting, and issuing the stock, and other costs of issuance of common stock.

Q. HOW ARE FLOTATION COSTS REFLECTED IN THE UTILITY'S FINANCIAL STATEMENTS?

A. Out-of-pocket flotation costs are reflected in the equity portion of the balance sheet as a reduction to "paid in capital" or "paid in surplus" to reflect the reduced proceeds from the equity issuance.

Q. WHY IS IT IMPORTANT TO RECOGNIZE FLOTATION COSTS IN THE ALLOWED ROE?

A. In order to attract and retain new equity investors, a regulated utility must have the opportunity to earn a ROE that is both competitive and compensatory. To the extent that a company is denied the opportunity to recover prudently incurred flotation costs, actual returns will fall short of expected (or required) ROE, thereby diminishing its ability to attract adequate equity capital on reasonable terms.

Q. HAS OTTER TAIL CORPORATION RECENTLY ISSUED COMMON STOCK THAT IS USED TO FUND OTP?

A. Yes. On September 18, 2008 OTC closed the sale of 4,500,000 shares of its common stock (excluding the underwriters' overallotment of 675,000 shares) at a price of $30.00 per share ($135 million).[23] The net proceeds of that issuance (after taking into consideration offering expenses), on a per-share basis, was $28.9125,[24] resulting in flotation costs of approximately 3.625 percent.

Q. ARE FURTHER EQUITY ISSUANCES BY OTC LIKELY TO OCCUR?

A. Yes. The Company's substantial capital investment plans suggest the need for future equity issuances. As is discussed in Mr. Moug's testimony, it is probable that OTP will require additional external equity to finance its upcoming investments.[25]

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[23] Otter Tail Power Corporation, SEC Form 8-K, dated September 18, 2008, at 2.
[24] Ibid.
[25] DirectTestimony and Schedules of Kevin C. Moug, at 7.

Q. ARE FLOTATION COSTS ON EQUITY ISSUANCES COMPARABLE TO ISSUANCE COSTS FOR DEBT?

A. Yes. The need to reimburse investors for equity issuance costs is recognized by the academic and financial communities for the same reasons that investors are reimbursed for the costs of issuing debt. According to Dr. Shannon Pratt:

> Flotation costs occur when new issues of stock or debt are sold to the public. … Flotation costs can be accounted for either by amortizing the costs, thus reducing the cash flow to discount, or by incorporating the cost into the cost of capital. Because flotation costs are not typically applied to operating cash flow, one must incorporate them into the cost of capital.[26]

Q. ARE ISSUANCE COSTS FOR DEBT TYPICALLY RECOVERED IN THE COST OF SERVICE?

A. Yes. Issuance costs for debt are routinely included in the cost of debt in rate case proceedings. Flotation costs related to equity issuances should be recovered for the same reasons. Flotation costs, like investments in rate base or the issuance costs of long-term debt, are incurred over time. As a result, the great majority of a utility's flotation costs are incurred prior to the test year, but remain part of the cost structure that exists during the test year and beyond, and as such, should be recognized for ratemaking purposes.

Q. ARE FLOTATION COSTS LIMITED TO ISSUANCES THAT HAVE OCCURED DURING THE TEST YEAR?

A. No. Flotation costs are not limited to issuances that occur in the test year because they are not expenses that flow through the income statement or through "operating cash flow" as Dr. Pratt notes. They are not current expenses and therefore are not reflected

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[26] Shannon P. Pratt, Cost of Capital Estimation and Applications, Second Edition, at 220-221.

on the income statement. Rather, flotation costs reduce the permanent capital of the issuer and are thus reflected in the balance sheet. They are comparable to capital investments. Flotation costs are part of the invested costs of the utility, which are properly reflected on the balance sheet of the utility in "paid in capital". Recovery of capital investments is not limited to the year in which the investment is made, and neither should the recovery of flotation costs. Common equity has an indefinite life, and due to the indeterminate life of an equity issuance, flotation costs should be recovered through a return adjustment, regardless of whether or not an issuance occurs during, or is planned for, the test year.

Q. IS THE NEED TO CONSIDER FLOTATION COSTS ELIMINATED BECAUSE OTP IS NOW A DIVISION OF OTC?

A. No. OTP is currently a division of OTC and may become a wholly owned subsidiary and is thus a part of the issuing entity. In both situations, OTP will depend on its parent for infusions of equity, including newly issued common stock. In both situations, there are issuance costs that must be recovered. As noted in the Prospectus relating to the recent sale of common equity, the proceeds of that issuance were used, in part, to pay down $82.5 million of short-term debt at OTP.[27] This short-term debt was directly related to OTP's very substantial investment program, including the Ashtabula Wind Project. To deny recovery of issuance costs associated with the capital that is invested in OTP ultimately will penalize the investors that fund the utility operations, and will inhibit the utility's ability to obtain new equity capital at a reasonable cost.

[27] Otter Tail Corporation Prospectus Supplement dated September 19, 2008, at S-20.

Q. DO THE DCF AND CAPM MODELS REFLECT INVESTOR EXPECTATIONS OF A ROE THAT COMPENSATES FOR FLOTATION COSTS?

A. No. These models do not take into consideration flotation costs. All the models used to estimate the appropriate return on equity assume no "friction" or transaction costs, as these costs are not reflected in the market price (in the case of the DCF model) or risk premium (in the case of the CAPM).

Q. HAVE YOU CALCULATED THE EFFECT OF FLOTATION COSTS ON THE ROE?

A. Yes. I modified the DCF calculation to provide a dividend yield that would reimburse investors for issuance costs. Based on the issuance costs provided in Exhibit __ (RBH-1), Schedule 6, an adjustment of 0.16 percent is (*i.e.*, 16 basis points) reflective of flotation costs for OTP. Table 5, below, presents the DCF results including flotation costs.

Table 5: DCF Results Including Flotation Costs

	Low Mean DCF Results	**Mean DCF Results**	**High Mean DCF Results**
Constant Growth DCF – 30-day Avg. Stock Price	11.08%	12.19%	13.31%
Constant Growth DCF – 90-day Avg. Stock Price	10.98%	12.10%	13.21%
Constant Growth DCF – 180-day Avg. Stock Price	10.90%	12.01%	13.13%

VII. BUSINESS AND ECONOMIC RISKS

Q. DO THE MEAN DCF AND CAPM RESULTS FOR THE PROXY GROUP PROVIDE AN APPROPRIATE ESTIMATE FOR THE COST OF EQUITY FOR OTP?

A. No, the mean analytical results do not necessarily represent the Company's cost of equity. There are several factors that must be considered to develop a meaningful and usable result. These factors are associated with: (1) the business risks faced by OTP; (2) general economic risks; and (3) the relatively small size of OTP.

A. Business Risks

Q. WHAT ARE THE PRIMARY BUSINESS RISKS THAT OTP CURRENTLY FACES?

A. The principal business risks facing OTP are: (i) the need for a very substantial level of capital expenditures, which are far higher than historical levels of investment, and higher than the comparable group; (ii) a more highly concentrated service area, (iii) a high dependence on commercial customers; and (iv) the absence of economic diversity within the service territory.

Q. HAVE THESE TYPES OF BUSINESS RISKS BEEN RECOGNIZED BY THE FINANCIAL COMMUNITY?

A. Yes. Recent equity analyst reports demonstrate that the financial community has recognized and is evaluating these types of business risks facing the regulated utility sector, generally, and OTP specifically, in the current market and economic

environment. In a recent review of the electric utility segment, KeyBanc Capital Markets noted that:

> On the regulated side, higher pricing for fuel offers a challenge for those players without timely and full fuel recovery mechanisms ... Other commodity costs (cement, steel and copper) are driving up the costs of infrastructure replacement and pose the risk of sticker shock when these capital expenditures are presented for recovery in a rate case proceeding. We have already seen New York State issue a punitive rate outcome to Consolidated Edison, Inc. with prior capital expenditures exposed to a prudence audit. If this sort of outcome were to become more prevalent, we would expect increased investor concern over restrictive regulation to intensify.[28]

Capital Expenditures

Q. PLEASE SUMMARIZE OTP'S CAPITAL EXPENDITURE FORECAST.

A. The OTC Form 10-Q filed with the Securities and Exchange Commission ("SEC") for the quarter ended June 30, 2008 provides the OTP capital expenditure forecast for the period 2008 through 2012.[29] That forecast indicates that the Company plans approximately $880 million for electric construction over that period. Mr. Thomas R. Brause and Mr. Kevin Moug discuss OTP's capital expenditure program in more detail in their testimonies.

Q. HOW IS OTP'S RISK PROFILE AFFECTED BY THE SUBSTANTIAL INCREASE IN ITS PLANNED CAPTIAL EXPENDITURES?

A. As with any utility faced with a substantial capital expenditure plan, OTP's risk profile is adversely affected in two significant and related ways: (1) the heightened level of investment increases the risk of under-recovery, or the delayed recovery of the

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[28] *Electric Utilities Quarterly 1Q08*, KeyBanc Capital Markets, June 11, 2008, at 7.

[29] Otter Tail Corp, Form 10-Q, Quarterly Report. Filed August 8, 2008 for period ending June 30, 2008, at 43.

invested capital, and (2) an inadequate authorized return will put downward pressure on key credit metrics.

Q. HAVE THE RISKS ASSOCIATED WITH ELEVATED CAPITAL EXPENDITURES BEEN RECOGNIZED BY THE FINANCIAL COMMUNITY?

A. Yes, they have. Rating agencies, for example, have consistently focused on the detrimental effect on cash flows and corresponding pressure on credit metrics resulting from elevated capital expenditures. In effect, the additional pressure on cash flows exerts corresponding pressure on credit metrics and, therefore, credit ratings. In fact, Standard & Poor's commented on this concern in its August 2007 analysis of the electric utility industry:

> Utilities are aggressively investing in generation facilities to address rising demand and replace retiring assets, in transmission plants to replace and build out an aging grid, and in distribution systems that need to be expanded and made more efficient.[30]

Equity investors also recognize the pressure on cash flows associated with relatively high levels of capital expenditures, and the resulting effect on the cost of equity:

> Using the last capital cycle as a guide, this should lead to higher prices to end users, increasing regulatory risks, and *higher equity risks premiums/lower group valuations*.[31]

Q. HOW DOES THE LEVEL OF OTP'S EXPECTED CAPITAL EXPENDITURES COMPARE TO THE PROXY GROUP?

A. In order to reasonably make that comparison, I calculated the ratio of expected capital expenditures to net assets[32] for each of the proxy group companies. For the projected

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[30] Standard and Poor's, *Electric Utilities Industry Survey*, August 9, 2007, at 6.

[31] Lehman Brothers, Regulated Utilities, *Industry Overview, Consequences of the CapEx Cycle*, June 4, 2008, at 2. *Emphasis Added.*

[32] Source: Value Line and SEC Forms 10-K. See Exhibit ___(RBH-1), Schedule 7.

period from 2008-2013, I performed that calculation at the operating company level for OTP using OTP's projected capital expenditures and its total net assets as of December 31, 2007. It is clear from this analysis that OTP's relative level of capital expenditures is materially greater than the capital expenditures of the proxy group companies.

Q. WHAT ARE YOUR CONCLUSIONS REGARDING THE EFFECT OF OTP'S CAPITAL SPENDING PLANS ON ITS RISK PROFILE?

A. First, it is clear that on a relative basis, OTP has an aggressive capital expenditure program. It also is clear that the financial community recognizes the additional risks associated with substantial capital expenditures and that those risks are reflected in market valuation multiples. In my view, these factors suggest a comparatively high level of risk vis-à-vis the proxy group.

Service Area and Customer Concentration

Q. HOW DOES OTP'S CONCENTRATED SERVICE AREA AND CUSTOMER CONCENTRATION AFFECT ITS BUSINESS RISK?

A. OTP's customer base is largely comprised of commercial and industrial customers. Approximately 60 percent of its total revenues are attributable to sales to commercial and industrial customers.[33] Compared to the proxy group, OTP has the highest commercial customer concentration by percent of revenues. OTP's dependence on sales to commercial users subjects its operations to greater cash flow volatility and risk of demand destruction and bypass. Although OTP currently believes its rates are sufficiently competitive to retain its commercial customers, OTP remains highly exposed to these risks.

Q. DOES THE ABSENCE OF ECONOMIC DIVERSITY IN OTP'S SERVICE TERRITORY AFFECT THE COMPANY'S RISK?

A. Yes. The territory served by OTP is largely agricultural.[34] It generally is understood that diversity is an important factor in the economic stability of a given market area. That is, a diversified economy is less susceptible to the economic cycles of, or shocks associated with, a single industry. Consequently, a relatively undiversified market, such as that served by OTP, represents meaningful financial risks to the host utility.

Q. BASED ON THE BUSINESS RISKS IDENTIFIED ABOVE, HOW WOULD YOU CLASSIFY OTP'S RISK LEVEL RELATIVE TO THE OTHERS IN THE PROXY GROUP?

A. As discussed above, OTP faces a higher than average level of business risk relative to the companies in the proxy group associated with substantially higher investment levels and a concentrated service area, its dependence on commercial customers and the absence of economic diversity in its service territory. Consequently, I believe that OTP has somewhat greater business risks relative to the proxy group.

B. Small Size

Q. PLEASE EXPLAIN THE RISK ASSOCIATED WITH SMALL SIZE.

A. Both the financial and academic communities have long accepted the proposition that the cost of equity for small firms is subject to a "size effect."[35] While empirical

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[33] SNL Financial.

[34] Otter Tail Corp, SEC Form 10-Q. Filed August 8, 2008 for period ending June 30, 2008, at 4.

[35] *See* Mario Levis, *The record on small companies: A review of the evidence*, Journal of Asset Management 2, March 2002, at 368-397, for a review of literature relating to the size effect.

evidence of the size effect often is based on studies of industries beyond regulated utilities, utility analysts also have noted the risks associated with small market capitalizations. Specifically, Ibbotson Associates noted:

> For small utilities, investors face additional obstacles, such as smaller customer base, limited financial resources, and a lack of diversification across customers, energy sources, and geography. These obstacles imply a higher investor return.[36]

Small size, therefore, leads to two categories of increased risk for investors: (1) liquidity risk (*i.e.*, the risk of not being able to sell one's shares in a timely manner due to the relatively thin market for the securities); and, (2) fundamental business risks.

Q. HOW DOES OTP COMPARE IN SIZE TO THE PROXY COMPANIES?

A. OTP, and for that matter OTC, are substantially smaller than the average for the proxy group companies both in terms of numbers of customers and market capitalization. Exhibit __ (RBH-1), Schedule 8 provides the actual market capitalization (based on a 30-day average stock price and the current number of common shares outstanding) for OTC, and estimates the implied market capitalization for OTP (*i.e.*, the implied market capitalization if OTP were a stand-alone, publicly traded entity). That is, since OTP is a division of OTC, an estimated stand-alone market capitalization for OTP must be calculated. To do so, I applied the average market to book ratio for the eleven member proxy group to OTP's stockholder's Equity of $229.633 million.[37] The implied market capitalization based on that calculation is $243.411 million, which is far below any member of the proxy group. In fact, the median market capitalization for the proxy group would be more than eleven times the size of OTP.

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[36] Michael Annin, *Equity and the Small-Stock Effect*, Public Utilities Fortnightly, October 15, 1995.

Q. HOW DOES THE SMALLER SIZE OF OTP AFFECT ITS BUSINESS RISKS RELATIVE TO THE PROXY GROUP OF COMPANIES?

A. In general, smaller companies are less able to withstand adverse events that affect their revenues and expenses. The impact of weather variability, the loss of large customers to bypass opportunities, or the destruction of demand as a result of general macroeconomic conditions or fuel price volatility will have a proportionately greater impact on the earnings and cash flow volatility of smaller utilities. Similarly, capital expenditures for non-revenue producing investments such as system maintenance and replacements will put proportionately greater pressure on customer costs, potentially leading to customer attrition or demand reduction. Taken together, these risks affect the return required by investors for smaller companies.

Q. HAVE YOU CONSIDERED THE SMALLER SIZE OF OTP IN YOUR RECOMMENDED RETURN ON EQUITY FOR THIS COMPANY?

A. Yes. While I have quantified the small size effect, rather than proposing a specific premium, I have considered the small size of OTP in my assessment of business risks in order to determine where within a reasonable range of returns, OTP's required ROE rightly falls.

Q. HOW DID YOU ESTIMATE THE SIZE PREMIUM FOR OTP?

A. In its *Risk Premia over Time Report: 2008*, Morningstar presents its calculation of the size premium for deciles of market capitalizations relative to the S&P 500 Index. An additional estimate of the size premium associated with OTP, therefore, is the difference in the Ibbotson size risk premia for the proxy group median market capitalization relative to the implied market capitalization for OTP.

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[37] See Exhibit_(KGM-1), Schedule 2, to Mr. Moug's Direct Testimony

As shown on Exhibit __ (RBH-1), Schedule 8, according to recent market data, the median market capitalization of the proxy group was approximately $3.08 billion, which corresponds to the 5th decile of Morningstar market capitalization data. Based on the Morningstar analysis, that decile corresponds to a size premium of 1.47 percent (or 147 basis points). The implied market capitalization for OTP is approximately $243.41 million, which falls within the 10th decile and corresponds to a size premium of 3.99 percent (or 399 basis points). The difference between those size premia is 252 basis points (3.99 percent – 1.47 percent).

Even if we were to use OTC's market capitalization, the size premium would be substantial. As of October 17, 2008, OTC's market capitalization was approximately $671.33 million, which corresponds to the 9th decile of the Morningstar risk premium data. That decile has a reported size premium of 2.56 percent (256 basis points), resulting in a size premium of 1.09 percent (2.56 percent – 1.47 percent). In either case, the size premium is meaningful and suggests that my ROE recommendation is reasonable.

Q. ARE THERE OTHER FACTORS THAT OFFSET THE RISKS ASSOCIATED WITH OTP'S RELATIVELY SMALL SIZE?

A. I do not believe so. The Commission has noted the possibility that other factors may offset the added risk of smaller size for a particular utility. I considered that possibility, but concluded that OTP does not have advantages over balance of the proxy group that would offset the added risk of smaller size.

VIII. CAPITAL STRUCTURE

Q. WHAT IS THE COMPANY'S PROJECTED CAPITAL STRUCTURE?

A. Company's requested capital structure consists of 53.30 percent common equity, 3.60 percent preferred stock, 40.30 percent long-term debt, 2.80 percent short-term debt. The proportions of the capital structure are discussed in detail in the direct testimony of Mr. Moug.

Q. PLEASE DISCUSS YOUR ANALYSIS OF THE CAPITAL STRUCTURES OF THE PROXY GROUP COMPANIES.

A. In order to assess the reasonableness of the Company's proposed capital structure, I reviewed the year-end 2007 capitalization ratios of the individual utility operating companies owned and operated (and for which separate financial information is filed with the SEC) by the respective proxy group companies. As shown in Exhibit__ (RBH-1), Schedule 9 the Company's proposed 53.30 percent equity ratio is well within the range of equity ratios for that group, and is only somewhat above the mean equity ratio of approximately 52.06 percent. Of the remaining capital components, the Company's proposed preferred stock ratio is above the group mean, while its total debt ratio (*i.e.*, including both short and long-term debt) is somewhat below the mean. In both cases (*i.e.*, preferred stock and total debt), the Company's proposed capital structure ratios are within the range of the proxy group utility company group.

I also considered the Company's proposed capital structure in the context of its capital investment plan (which was summarized earlier in my testimony and which is discussed in the Direct Testimonies of Messrs. Brause and Moug). As Mr. Moug points out, in light of the Company's substantial capital spending plan and given

current market conditions, it will be important to maintain the financial flexibility required to optimally finance those investments. As such, while the Company's proposed equity ratio is somewhat above the group average (although well within the group range), it is reasonable and appropriate to maintain the incremental financial flexibility associated with the proposed capital structure.

IX. SUMMARY AND CONCLUSIONS

Q. PLEASE SUMMARIZE YOUR CALCULATED COST OF EQUITY, TAKING INTO CONSIDERATION THE ISSUES DISCUSSED ABOVE.

A. As shown in Table 6 below, the range of ROE mean estimates is between approximately 11.00 percent and 13.00 percent (both of which are based on DCF results), including flotation costs and before considering any incremental risk factors. The CAPM and Risk Premium results are somewhat lower, but even giving equal consideration to those results would lead to a range of 10.75 percent to 12.00 percent.

Table 6: ROE Estimate Summary

	Mean Low Results	Mean Results	Mean High Results
Constant Growth DCF Model (flotation cost adjusted)			
30-day Avg. Stock Price	11.08%	12.19%	13.31%
90-day Avg. Stock Price	10.98%	12.10%	13.21%
180-day Avg. Stock Price	10.90%	12.01%	13.13%
Capital Asset Pricing Model (including 16 basis point flotation cost adjustment)			
4.22% -30-day average of the 30 year Treasury Yield	10.20%	10.48%	10.77%
4.45% -90-day average of the 30 year Treasury Yield	10.44%	10.72%	11.00%
4.47% -180-day average of the 30 year Treasury Yield	10.45%	10.74%	11.02%
4.65% -Blue Chip Forecast 30-year Treasury Bond Yield	10.63%	10.92%	11.20%
Supporting Analyses			
Risk Premium	10.82%	10.93%	11.05%

Q. DID THE USE OF DATA THROUGH OCTOBER 13, 2008 HAVE A SIGNIFICANT EFFECT ON YOUR RECOMMENDATION?

A. No, it did not. I recognize that both the broad market and the utility sector were affected by the very unusual economic events that occurred between September 30 through October 13, 2008.[38] However, the use of both 90 and 180-day averaging periods, in addition to the 30 day analysis, substantially moderates the effect of those nine trading days. Therefore, even if I had ended my analyses as of September 30, the results would have fully supported my 11.25 percent ROE recommendation. As Table 7 (below) demonstrates, the DCF and CAPM results for the longer average periods (i.e., 90 and 180 days) for data ended September 30, 2008 are not materially different

[38] In fact, both the Dow Jones Industrial Average and the Dow Jones Utility Average declined by

than the results based on data ended October 13, 2008, and the 30 day results also support my recommendation. My recommendation is well within the range of my analytical results using both September 30, 2008 and October 13, 2008 end dates, and my recommendation continues to be at the low end of my DCF results. Consequently, my decision to update data through October 13, 2008 did not affect my 11.25 percent ROE recommendation.

Table 7: DCF and CAPM Results as of September 30, 2008

	Mean Low Results	**Mean Results**	**Mean High Results**
Constant Growth DCF Model (flotation cost adjusted)			
30-day Avg. Stock Price	10.89%	11.99%	13.08%
90-day Avg. Stock Price	10.92%	12.01%	13.11%
180-day Avg. Stock Price	10.84%	11.94%	13.03%
Capital Asset Pricing Model (including 16 basis point flotation cost adjustment)			
4.31% -30-day average of the 30 year Treasury Yield	10.23%	10.44%	10.65%
4.51% -90-day average of the 30 year Treasury Yield	10.43%	10.64%	10.85%
4.48% -180-day average of the 30 year Treasury Yield	10.40%	10.61%	10.82%
4.65% -Blue Chip Forecast 30-year Treasury Bond Yield	10.57%	10.78%	10.99%

Q. WHAT IS YOUR CONCLUSION REGARDING A FAIR ROE FOR OTP?

A. A rate of return in the range of 11.00 percent to 11.75 percent represents a reasonable range of equity investors' required rate of return for investment in OTP in today's capital markets. As discussed earlier in my testimony, OTP's business risks and smaller size, along with other economic factors, justifies an ROE above the mean of the range. As such, my recommended 11.25 percent ROE is a reasonable estimate of the Company's cost of equity.

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approximately 13.48% during that time.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, it does.

Robert B. Hevert, CFA
President

Mr. Hevert is an economic and financial consultant with broad experience in the energy industry. He has an extensive background in the areas of corporate strategic planning, energy market assessment, corporate finance, mergers, and acquisitions, asset-based transactions, asset and business unit valuation, market entry strategies, strategic alliances, project development, feasibility and due diligence analyses. Mr. Hevert has significant management experience with both operating and professional services companies.

REPRESENTATIVE PROJECT EXPERIENCE

Financial and Economic Advisory Services

Retained by numerous leading energy companies and financial institutions throughout North America to provide services relating to the strategic evaluation, acquisition, sale or development of a variety of regulated and non-regulated enterprises. Specific services have included: developing strategic and financial analyses and managing multi-faceted due diligence reviews of proposed corporate M&A counter-parties; developing, screening and recommending potential M&A transactions and facilitating discussions between senior utility executives regarding transaction strategy and structure; performing valuation analyses and financial due diligence reviews of electric generation projects, retail marketing companies, and wholesale trading entities in support of significant M&A transactions.

Specific divestiture-related services have included advising both buy and sell-side clients in transactions for physical and contractual electric generation resources. Sell-side services have included: development and implementation of key aspects of asset divestiture programs such as marketing, offering memorandum development, development of transaction terms and conditions, bid process management, bid evaluation, negations, and regulatory approval process. Buy-side services have included comprehensive asset screening, selection, valuation and due diligence reviews. Both buy and sell-side services have included the use of sophisticated asset valuation techniques, and the development and delivery of fairness opinions.

Specific corporate finance experience while a Vice President with Bay State Gas included: negotiation, placement and closing of both private and public long-term debt, preferred and common equity; structured and project financing; corporate cash management; financial analysis, planning and forecasting; and various aspects of investor relations.

Representative non-confidential clients have included:

- Conectiv generation asset divestiture
- Eastern Utilities Associates (prior to acquisition by National Grid, PLC) generation asset divestiture
- Niagara Mohawk – sale of Niagara Mohawk Energy
- Potomac Electric Company generation asset divestiture

Representative confidential engagements have included:

- Buy-side valuation and assessment of merchant generation assets in Midwestern U.S.
- Buy-side due diligence and valuation of wholesale energy marketing companies in Eastern and Midwestern U.S.
- Buy-side due diligence of natural gas distribution assets in Northeastern U.S.
- Financial feasibility study of natural gas pipeline in upper Midwestern U.S.

- Financial valuation of natural gas pipeline in Southwestern U.S.

Regulatory Analysis and Ratemaking

On behalf of electric, natural gas and combination utilities throughout North America, provided services relating to energy industry restructuring including merchant function exit, residual energy supply obligations, and stranded cost assessment and recovery. Also performed rate of return and cost of service analyses for municipally owned gas and electric utilities. Specific services provided include: performing strategic review and development of merchant function exit strategies including analysis of provider of last resort obligations in both electric and gas markets; and developing value optimizing strategies for physical generation assets.

Representative engagements have included:

- Performing rate of return analyses for use in cost of service analyses on behalf of municipally owned gas and electric utilities in the Southeastern and Midwestern U.S.
- Developing merchant function exit strategies for Northeastern U.S. natural gas distribution companies
- Developing regulatory and ratemaking strategy for mergers including several Northeastern natural gas distribution companies

Litigation Support and Expert Testimony

Provided expert testimony and support of litigation in various regulatory proceedings on a variety of energy and economic issues including the proposed transfer of power purchase agreements, procurement of residual service electric supply, the legal separation of generation assets, and specific financing transactions. Services provided also included collaborating with counsel, business and technical staff to develop litigation strategies, preparing and reviewing discovery and briefing materials, preparing presentation materials and participating in technical sessions with regulators and intervenors.

Energy Market Assessment

Retained by numerous leading energy companies and financial institutions nationwide to manage or provide assessments of regional energy markets throughout the U.S. and Canada. Such assessments have included development of electric and natural gas price forecasts, analysis of generation project entry and exit scenarios, assessment of natural gas and electric transmission infrastructure, market structure and regulatory situation analysis, and assessment of competitive position. Market assessment engagements typically have been used as integral elements of business unit or asset-specific strategic plans or valuation analyses.

Representative engagements have included:

- Managing assessments of the NYPOOL, NEPOOL and PJM markets for major North American energy companies considering entering or expanding their presence in those markets
- Assessment of ECAR, MAPP, MAIN and SPP markets for a large U.S. integrated utility considering acquisition of additional electric generation assets
- Assessment of natural gas pipeline and storage capacity in the SERC and FRCC markets for a major international energy company

Resource Procurement, Contracting and Analysis

Assisted various clients in evaluating alternatives for acquiring fuel and power supplies, including the development and negotiation of energy contracts and tolling agreements. Assignments also have included developing generation resource optimization strategies. Provided advice and analyses of transition service power supply contracts in the context of both physical and contractual generation resource divestiture transactions.

Business Strategy and Operations

Retained by numerous leading North American energy companies and financial institutions nationwide to provide services relating to the development of strategic plans and planning processes for both regulated and non-regulated enterprises. Specific services provided include: developing and implementing electric generation strategies and business process redesign initiatives; developing market entry strategies for retail and wholesale businesses including assessment of asset-based marketing and trading strategies; and facilitating executive level strategic planning retreats. As Vice President, Energy Ventures, of Bay State was responsible for the company's strategic planning and business development processes, played an integral role in developing the company's non-regulated marketing affiliate, EnergyUSA, and managed the company's non-regulated investments, partnerships and strategic alliances.

Representative engagements have included:

- Developing and facilitating executive level strategic planning retreats for Northeastern natural gas distribution companies
- Developing organization and business process redesign plans for municipally owned gas/electric/water utility in the Southeastern U.S.
- Reviewing and revising corporate merchant generation business plans for Canadian and U.S. integrated utilities
- Advising client personnel in development of business unit level strategic plans for various natural gas distribution companies

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PROFESSIONAL HISTORY

Concentric Energy Advisors, Inc. (2002 – Present)
President

Navigant Consulting, Inc. (1997 – 2001)
Managing Director (2000 – 2001)
Director (1998 – 2000)
Vice President, REED Consulting Group (1997 – 1998)

REED Consulting Group (1997)
Vice President

Bay State Gas Company (1987 – 1997)
Vice President, Energy Ventures and Assistant Treasurer

Boston College (1986 – 1987)
Financial Analyst

General Telephone Company of the South (1984 – 1986)
Revenue Requirements Analyst

EDUCATION

M.B.A., University of Massachusetts at Amherst, 1984
B.S., University of Delaware, 1982

DESIGNATIONS AND PROFESSIONAL AFFILIATIONS

Chartered Financial Analyst, 1991
Association for Investment Management and Research
Boston Security Analyst Society

PUBLICATIONS/PRESENTATIONS

Has made numerous presentations throughout the United States and Canada on several topics, including:

- Generation Asset Valuation and the Use of Real Options
- Retail and Wholesale Market Entry Strategies
- The Use Strategic Alliances in Restructured Energy Markets
- Gas Supply and Pipeline Infrastructure in the Northeast Energy Markets
- Nuclear Asset Valuation and the Divestiture Process

AVAILABLE UPON REQUEST

Extensive client and project listings, and specific references.

EXPERT TESTIMONY OF ROBERT B. HEVERT

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Public Service Company Of New Mexico	09/08	Public Service Company Of New Mexico	Case No. 08-00273-UT	Return on Equity
Southern Connecticut Gas Company	09/08	Southern Connecticut Gas Company	Docket No. 08-08-17	Return on Equity
Texas-New Mexico Power Company	08/08	Texas-New Mexico Power Company	Docket No. 36025	Return on Equity
Unitil Energy Systems, Inc. ("Unitil"), EnergyNorth Natural Gas, Inc. d/b/a National Grid NH, Granite State Electric Company d/b/a National Grid, and Northern Utilities, Inc. – New Hampshire Division	08/08	Unitil Energy Systems, Inc. ("Unitil"), EnergyNorth Natural Gas, Inc. d/b/a National Grid NH, Granite State Electric Company d/b/a National Grid, and Northern Utilities, Inc. – New Hampshire Division	Docket No. DG 07-072	Carrying Charge Rate on Cash Working Capital
National Grid RI – Gas	08/08	National Grid RI – Gas	Docket No. 3943	Revenue Decoupling and Return on Equity
CenterPoint Energy Resources Corp. D/B/A CenterPoint Energy Texas Gas	03/08	CenterPoint Energy Resources Corp. D/B/A CenterPoint Energy Texas Gas	Docket No. 9791	Return on Equity
Spectra Energy	02/08	Saltville Gas Storage	Docket No. RP08-257-000	Return on Equity
Questar Gas Company	12/07	Questar Gas Company	Docket No. 07-057-13	Return on Equity
Southern Connecticut Gas Company	12/07	Southern Connecticut Gas Company	Docket No. 05-03-17PH02	Return on Equity
Connecticut Natural Gas Corporation	12/07	Connecticut Natural Gas Corporation	Docket No. 06-03-04PH02	Return on Equity
Otter Tail Power Corporation	10/07	Otter Tail Power Company	Docket No. E017/GR-07-1178	Return on Equity
Panhandle Energy Pipelines	08/07	Panhandle Energy Pipelines	Docket No. PL07-2-000	Computation of proxy companies for determining gas and oil pipeline ROEs
Southwest Gas Storage Company	08/07	Southwest Gas Storage Company	Docket No. RP07-541-000	Return on Equity
Xcel Energy	07/07	Southwestern Public Service Company	Docket No. 07-00319 - UT	Return on Equity
Sea Robin Pipeline L.L.C.	06/07	Sea Robin Pipeline L.L.C.	Docket No. RP07-513-000	Return on Equity
Southwest Gas Storage Company	06/07	Southwest Gas Storage Company	Docket No. RP07-34-000	Return on Equity
Centerpoint Energy Resources Corp. D/B/A Centerpoint Energy Arkansas Gas	01/07	Centerpoint Energy Resources Corp. D/B/A Centerpoint Energy Arkansas Gas	Docket No. 06-161-U	Return on Equity
Xcel Energy	12/06	Public Service Company of Colorado	Docket No. 06S-656G	Return on Equity (gas)
Transwestern Pipeline Company	09/06	Transwestern Pipeline Company	Docket No. RP06-614-000	Return on Equity

EXPERT TESTIMONY OF ROBERT B. HEVERT

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Pepco Holdings, Inc.	09/06	Atlantic City Electric	Docket No. EMO6090638 (New Jersey)	Divestiture and Valuation of Electric Generating Assets
Columbia Gas Of Virginia, Inc.	06/06	Columbia Gas Of Virginia, Inc.	Case No. PUE-2005-00098	Merger Synergies
Xcel Energy	05/06	Southwestern Public Service	SOAH Docket No. 473-06-2536 Docket No. 32766	Return on Equity (electric)
Xcel Energy	04/06	Public Service Company of Colorado	Docket No. 06S-234EG	Return on Equity (electric)
Green Mountain Power	04/06	Green Mountain Power	Docket No. 7175 and 7176 (Vermont)	Return on Equity (electric)
Vermont Gas Systems, Inc.	12/05	Vermont Gas Systems	Docket No. 7109 and 7160 (Vermont)	Return on Equity (gas)
Pepco Holdings, Inc.	12/05	Atlantic City Electric	BPU Docket No. EM05121058	Market Value of Electric Generation Assets; Auction
Xcel Energy	11/05	NSP-Minnesota	Docket No. E002/GR-05-1428 (Minnesota)	Return on Equity (electric)
Xcel Energy	08/05	Public Service Company of Colorado	Advice Letter No. 94-Steam (Colorado)	Return on Equity (steam)
Xcel Energy	05/05	Public Service Company of Colorado	Docket No. 05-264G (Colorado)	Return on Equity (gas)
NSTAR Electric	09/04	NSTAR Electric	D.T.E 04-85 (Massachusetts)	Divestiture of Power Purchase Agreement
Xcel Energy	09/04	NSP Minnesota	G002/GR-04-1511 (Minnesota)	Cost of Capital (gas)
NSTAR Electric	08/04	NSTAR Electric	D.T.E 04-78 (Massachusetts)	Divestiture of Power Purchase Agreement
NSTAR Electric	07/04	NSTAR Electric	D.T.E 04-68 (Massachusetts)	Divestiture of Power Purchase Agreement
NSTAR Electric	07/04	NSTAR Electric	D.T.E 04-61 (Massachusetts)	Divestiture of Power Purchase Agreement
NSTAR Electric	06/04	NSTAR Electric	D.T.E 04-60 (Massachusetts)	Divestiture of Power Purchase Agreement

EXPERT TESTIMONY OF ROBERT B. HEVERT

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Unitil Corporation	01/04	Fitchburg Gas and Electric	D.T.E. 03-52 (Massachusetts)	Integrated Resource Plan; Gas Demand Forecast
Conectiv	06/03	Atlantic City Electric Company	BPU EO03020091 (New Jersey)	Market Value of Electric Generation Assets; Auction Process
Dominion Resources	10/01	Virginia Electric and Power Company	PUE000584 (Virginia)	Corporate Structure and Electric Generation Strategy
Niagara Mohawk Power Corporation	07/01	Niagara Mohawk Power Corporation	NY PSC Case 01-E	Power Purchase and Sale Agreement; Standard Offer Service Agreement
GPU International and Aquila	11/00	GPU International	EC01-24-000 (FERC)	Market Power Study
Northern Utilities, Inc.	07/95	Northern Utilities	Maine PUC	Gas Distribution System Expansion
Bay State Gas Company	01/93	Bay State Gas Company	DPU 93-14	Long Term Debt Financing
Bay State Gas Company	01/91	Bay State Gas Company	DPU 91-25	Long Term Debt Financing

30 DAY CONSTANT GROWTH DCF

Company		[1] Annualized Dividend	[2] Stock Price	[3] Dividend Yield	[4] Expected Dividend Yield	[5] Zacks EPS Growth	[6] Value Line EPS Growth	[7] Average Growth Rate	[8] Low DCF ROE	[9] Mean DCF ROE	[10] High DCF ROE
PROXY GROUP ELECTRIC UTILITIES											
American Electric Power	AEP	$1.64	$36.32	4.52%	4.67%	6.30%	7.50%	6.90%	10.96%	11.57%	12.18%
Cleco Corp.	CNL	$0.90	$24.69	3.65%	3.87%	14.00%	10.50%	12.25%	14.34%	16.12%	17.90%
Edison International	EIX	$1.22	$39.59	3.08%	3.19%	8.80%	5.00%	6.90%	8.16%	10.09%	12.02%
Empire District Electric	EDE	$1.28	$21.02	6.09%	6.39%	-	10.00%	10.00%	16.39%	16.39%	16.39%
Entergy Corp.	ETR	$3.00	$89.49	3.35%	3.53%	11.50%	10.00%	10.75%	13.52%	14.28%	15.05%
IDACORP, Inc.	IDA	$1.20	$29.13	4.12%	4.20%	6.00%	2.00%	4.00%	6.16%	8.20%	10.24%
Northeast Utilities	NU	$0.85	$24.97	3.40%	3.59%	10.00%	11.50%	10.75%	13.57%	14.34%	15.10%
Pinnacle West Capital	PNW	$2.10	$34.41	6.10%	6.23%	6.70%	2.00%	4.35%	8.16%	10.58%	13.01%
Portland General	POR	$0.98	$23.80	4.12%	4.26%	6.50%	7.00%	6.75%	10.75%	11.01%	11.26%
Progress Energy	PGN	$2.46	$42.91	5.73%	5.88%	5.00%	5.00%	5.00%	10.88%	10.88%	10.88%
Westar Energy	WR	$1.16	$22.36	5.19%	5.28%	5.30%	2.00%	3.65%	7.24%	8.93%	10.63%
		PROXY GROUP MEAN		4.49%	4.65%	8.01%	6.59%	7.39%	10.92%	12.04%	13.15%
								Flotation Adjustment	0.16%	0.16%	0.16%
								Adjusted Mean ROE	11.08%	12.19%	13.31%
								Adjusted Median ROE	10.88%	11.01%	12.18%

Notes
[1] Source: Bloomberg
[2] Source: Bloomberg. Based on indicated number of days historical average.
[3] Equals Col. [1]/Col. [2]
[4] Equals (Col. [1] x (1+(0.5 x Col. [7])))/Col. [2]
[5] Source: Zacks
[6] Source: Value Line
[7] Equals Avg (Col. [5], [6])
[8] Equals (Col. [3] x (1 + (0.5 x Minimum (Col. [5], [6])))) + Minimum (Col. [5], [6])
[9] Equals Col. [4] + Col. [5]
[10] Equals (Col. [3] x (1 + (0.5 x Maximum (Col. [5], [6])))) + Maximum (Col. [5], [6])

90 DAY CONSTANT GROWTH DCF

Company		[1] Annualized Dividend	[2] Stock Price	[3] Dividend Yield	[4] Expected Dividend Yield	[5] Zacks EPS Growth	[6] Value Line EPS Growth	[7] Average Growth Rate	[8] Low DCF ROE	[9] Mean DCF ROE	[10] High DCF ROE
PROXY GROUP ELECTRIC UTILITIES											
American Electric Power	AEP	$1.64	$38.79	4.23%	4.37%	6.30%	7.50%	6.90%	10.66%	11.27%	11.89%
Cleco Corp.	CNL	$0.90	$24.73	3.64%	3.86%	14.00%	10.50%	12.25%	14.33%	16.11%	17.89%
Edison International	EIX	$1.22	$45.92	2.66%	2.75%	8.80%	5.00%	6.90%	7.72%	9.65%	11.57%
Empire District Electric	EDE	$1.28	$20.43	6.27%	6.58%	-	10.00%	10.00%	16.58%	16.58%	16.58%
Entergy Corp.	ETR	$3.00	$104.48	2.87%	3.03%	11.50%	10.00%	10.75%	13.01%	13.78%	14.54%
IDACORP, Inc.	IDA	$1.20	$29.84	4.02%	4.10%	6.00%	2.00%	4.00%	6.06%	8.10%	10.14%
Northeast Utilities	NU	$0.85	$25.73	3.30%	3.48%	10.00%	11.50%	10.75%	13.47%	14.23%	14.99%
Pinnacle West Capital	PNW	$2.10	$33.40	6.29%	6.42%	6.70%	2.00%	4.35%	8.35%	10.77%	13.20%
Portland General	POR	$0.98	$23.80	4.12%	4.26%	6.50%	7.00%	6.75%	10.75%	11.01%	11.26%
Progress Energy	PGN	$2.46	$42.67	5.77%	5.91%	5.00%	5.00%	5.00%	10.91%	10.91%	10.91%
Westar Energy	WR	$1.16	$22.37	5.19%	5.28%	5.30%	2.00%	3.65%	7.24%	8.93%	10.62%
		PROXY GROUP MEAN		4.39%	4.55%	8.01%	6.59%	7.39%	10.83%	11.94%	13.05%
								Flotation Adjustment	0.16%	0.16%	0.16%
								Adjusted Mean ROE	10.98%	12.10%	13.21%
								Adjusted Median ROE	10.75%	11.01%	11.89%

Notes
[1] Source: Bloomberg
[2] Source: Bloomberg. Based on indicated number of days historical average.
[3] Equals Col. [1]/Col. [2]
[4] Equals (Col. [1] x (1+(0.5 x Col. [7])))/Col. [2]
[5] Source: Zacks
[6] Source: Value Line
[7] Equals Avg (Col. [5], [6])
[8] Equals (Col. [3] x (1 + (0.5 x Minimum (Col. [5], [6])))) + Minimum (Col. [5], [6])
[9] Equals Col. [4] + Col. [5]
[10] Equals (Col. [3] x (1 + (0.5 x Maximum (Col. [5], [6])))) + Maximum (Col. [5], [6])

180 DAY CONSTANT GROWTH DCF

Company		[1] Annualized Dividend	[2] Stock Price	[3] Dividend Yield	[4] Expected Dividend Yield	[5] Zacks EPS Growth	[6] Value Line EPS Growth	[7] Average Growth Rate	[8] Low DCF ROE	[9] Mean DCF ROE	[10] High DCF ROE
PROXY GROUP ELECTRIC UTILITIES											
American Electric Power	AEP	$1.64	$40.82	4.02%	4.16%	6.30%	7.50%	6.90%	10.44%	11.06%	11.67%
Cleco Corp.	CNL	$0.90	$24.32	3.70%	3.93%	14.00%	10.50%	12.25%	14.40%	16.18%	17.96%
Edison International	EIX	$1.22	$48.70	2.51%	2.59%	8.80%	5.00%	6.90%	7.57%	9.49%	11.42%
Empire District Electric	EDE	$1.28	$20.72	6.18%	6.49%	-	10.00%	10.00%	16.49%	16.49%	16.49%
Entergy Corp.	ETR	$3.00	$107.78	2.78%	2.93%	11.50%	10.00%	10.75%	12.92%	13.68%	14.44%
IDACORP, Inc.	IDA	$1.20	$30.72	3.91%	3.98%	6.00%	2.00%	4.00%	5.95%	7.98%	10.02%
Northeast Utilities	NU	$0.85	$25.96	3.27%	3.45%	10.00%	11.50%	10.75%	13.44%	14.20%	14.96%
Pinnacle West Capital	PNW	$2.10	$34.49	6.09%	6.22%	6.70%	2.00%	4.35%	8.15%	10.57%	12.99%
Portland General	POR	$0.98	$23.67	4.14%	4.28%	6.50%	7.00%	6.75%	10.78%	11.03%	11.29%
Progress Energy	PGN	$2.46	$42.68	5.76%	5.91%	5.00%	5.00%	5.00%	10.91%	10.91%	10.91%
Westar Energy	WR	$1.16	$22.88	5.07%	5.16%	5.30%	2.00%	3.65%	7.12%	8.81%	10.50%
		PROXY GROUP MEAN		4.31%	4.46%	8.01%	6.59%	7.39%	10.74%	11.85%	12.97%
								Flotation Adjustment	0.16%	0.16%	0.16%
								Adjusted Mean ROE	10.90%	12.01%	13.13%
								Adjusted Median ROE	10.78%	11.03%	11.67%

Notes
[1] Source: Bloomberg
[2] Source: Bloomberg. Based on indicated number of days historical average.
[3] Equals Col. [1]/Col. [2]
[4] Equals (Col. [1] x (1+(0.5 x Col. [7])))/Col. [2]
[5] Source: Zacks
[6] Source: Value Line
[7] Equals Avg (Col. [5], [6])
[8] Equals (Col. [3] x (1 + (0.5 x Minimum (Col. [5], [6])))) + Minimum (Col. [5], [6])
[9] Equals Col. [4] + Col. [5]
[10] Equals (Col. [3] x (1 + (0.5 x Maximum (Col. [5], [6])))) + Maximum (Col. [5], [6])

CAPITAL ASSET PRICING MODEL - 30 Day Average 30 Year Treasury Bond Yield

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
		Adjusted Betas							
Company		Value Line	Bloomberg	Mean Beta	30-Yr Treasury	Market Risk Premium	Low CAPM	CAPM k(e)	High CAPM
American Electric Power	AEP	0.85	0.94	0.90	4.22%	7.10%	10.25%	10.58%	10.91%
Cleco Corp.	CNL	0.90	0.92	0.91	4.22%	7.10%	10.61%	10.69%	10.77%
Edison International	EIX	0.90	0.98	0.94	4.22%	7.10%	10.61%	10.88%	11.16%
Empire District Electric	EDE	0.80	0.85	0.82	4.22%	7.10%	9.90%	10.06%	10.23%
Entergy Corp.	ETR	0.80	0.97	0.89	4.22%	7.10%	9.90%	10.50%	11.11%
IDACORP, Inc.	IDA	0.90	0.85	0.87	4.22%	7.10%	10.22%	10.41%	10.61%
Northeast Utilities	NU	0.75	0.93	0.84	4.22%	7.10%	9.54%	10.17%	10.80%
Pinnacle West Capital	PNW	0.80	0.78	0.79	4.22%	7.10%	9.75%	9.82%	9.90%
Portland General	POR	0.80	0.85	0.82	4.22%	7.10%	9.90%	10.07%	10.24%
Progress Energy	PGN	0.75	0.85	0.80	4.22%	7.10%	9.54%	9.89%	10.24%
Westar Energy	WR	0.85	0.92	0.88	4.22%	7.10%	10.25%	10.49%	10.73%
MEAN		0.83	0.89	0.86			10.04%	10.32%	10.61%
						Flotation Adjustment	0.16%	0.16%	0.16%
						Adjusted Mean ROE	10.20%	10.48%	10.77%

Notes
[1] Source: Value Line
[2] Source: Bloomberg
[3] Equals mean of Cols. [1], [2]
[4] Source: Blue Chip Financial Forecast, October 1, 2008
[5] Source: Morningstar, Inc.
[6] Equals Col [4] + (Min (Cols [1], [2]) x Col [5])
[7] Equals Col. [4] +(Col. [3] x Col [5])
[8] Equals Col [4] + (Max (Cols [1], [2]) x Col [5])

CAPITAL ASSET PRICING MODEL - 90 Day Average 30 Year Treasury Bond Yield

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
		Adjusted Betas							
Company		Value Line	Bloomberg	Mean Beta	30-Yr Treasury	Market Risk Premium	Low CAPM	CAPM k(e)	High CAPM
American Electric Power	AEP	0.85	0.94	0.90	4.45%	7.10%	10.49%	10.82%	11.15%
Cleco Corp.	CNL	0.90	0.92	0.91	4.45%	7.10%	10.84%	10.93%	11.01%
Edison International	EIX	0.90	0.98	0.94	4.45%	7.10%	10.84%	11.12%	11.40%
Empire District Electric	EDE	0.80	0.85	0.82	4.45%	7.10%	10.13%	10.30%	10.47%
Entergy Corp.	ETR	0.80	0.97	0.89	4.45%	7.10%	10.13%	10.74%	11.35%
IDACORP, Inc.	IDA	0.90	0.85	0.87	4.45%	7.10%	10.45%	10.65%	10.84%
Northeast Utilities	NU	0.75	0.93	0.84	4.45%	7.10%	9.78%	10.41%	11.04%
Pinnacle West Capital	PNW	0.80	0.78	0.79	4.45%	7.10%	9.98%	10.06%	10.13%
Portland General	POR	0.80	0.85	0.82	4.45%	7.10%	10.13%	10.31%	10.48%
Progress Energy	PGN	0.75	0.85	0.80	4.45%	7.10%	9.78%	10.13%	10.48%
Westar Energy	WR	0.85	0.92	0.88	4.45%	7.10%	10.49%	10.73%	10.96%
MEAN		0.83	0.89	0.86			10.28%	10.56%	10.85%
						Flotation Adjustment	0.16%	0.16%	0.16%
						Adjusted Mean ROE	10.44%	10.72%	11.00%

Notes
[1] Source: Value Line
[2] Source: Bloomberg
[3] Equals mean of Cols. [1], [2]
[4] Source: Blue Chip Financial Forecast, October 1, 2008
[5] Source: Morningstar, Inc.
[6] Equals Col [4] + (Min (Cols [1], [2]) x Col [5])
[7] Equals Col. [4] +(Col. [3] x Col [5])
[8] Equals Col [4] + (Max (Cols [1], [2]) x Col [5])

CAPITAL ASSET PRICING MODEL - 180 Day Average 30 Year Treasury Bond Yield

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
		Adjusted Betas							
Company		Value Line	Bloomberg	Mean Beta	30-Yr Treasury	Market Risk Premium	Low CAPM	CAPM k(e)	High CAPM
American Electric Power	AEP	0.85	0.94	0.90	4.47%	7.10%	10.51%	10.84%	11.17%
Cleco Corp.	CNL	0.90	0.92	0.91	4.47%	7.10%	10.86%	10.94%	11.02%
Edison International	EIX	0.90	0.98	0.94	4.47%	7.10%	10.86%	11.14%	11.41%
Empire District Electric	EDE	0.80	0.85	0.82	4.47%	7.10%	10.15%	10.32%	10.48%
Entergy Corp.	ETR	0.80	0.97	0.89	4.47%	7.10%	10.15%	10.76%	11.37%
IDACORP, Inc.	IDA	0.90	0.85	0.87	4.47%	7.10%	10.47%	10.67%	10.86%
Northeast Utilities	NU	0.75	0.93	0.84	4.47%	7.10%	9.80%	10.42%	11.05%
Pinnacle West Capital	PNW	0.80	0.78	0.79	4.47%	7.10%	10.00%	10.08%	10.15%
Portland General	POR	0.80	0.85	0.82	4.47%	7.10%	10.15%	10.33%	10.50%
Progress Energy	PGN	0.75	0.85	0.80	4.47%	7.10%	9.80%	10.15%	10.50%
Westar Energy	WR	0.85	0.92	0.88	4.47%	7.10%	10.51%	10.74%	10.98%
MEAN		0.83	0.89	0.86			10.30%	10.58%	10.86%
						Flotation Adjustment	0.16%	0.16%	0.16%
						Adjusted Mean ROE	10.45%	10.74%	11.02%

Notes
[1] Source: Value Line
[2] Source: Bloomberg
[3] Equals mean of Cols. [1], [2]
[4] Source: Blue Chip Financial Forecast, October 1, 2008
[5] Source: Morningstar, Inc.
[6] Equals Col [4] + (Min (Cols [1], [2]) x Col [5])
[7] Equals Col. [4] +(Col. [3] x Col [5])
[8] Equals Col [4] + (Max (Cols [1], [2]) x Col [5])

CAPITAL ASSET PRICING MODEL - Projected Treasury Bond Yield

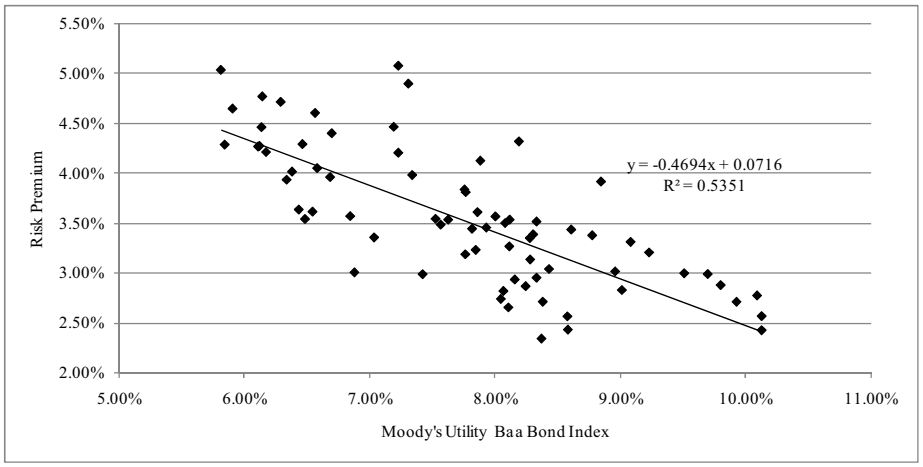
		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
			Adjusted Betas						
Company		Value Line	Bloomberg	Mean Beta	30-Yr Treasury	Market Risk Premium	Low CAPM	CAPM k(e)	High CAPM
American Electric Power	AEP	0.85	0.94	0.90	4.65%	7.10%	10.69%	11.02%	11.35%
Cleco Corp.	CNL	0.90	0.92	0.91	4.65%	7.10%	11.04%	11.12%	11.20%
Edison International	EIX	0.90	0.98	0.94	4.65%	7.10%	11.04%	11.32%	11.59%
Empire District Electric	EDE	0.80	0.85	0.82	4.65%	7.10%	10.33%	10.50%	10.66%
Entergy Corp.	ETR	0.80	0.97	0.89	4.65%	7.10%	10.33%	10.94%	11.54%
IDACORP, Inc.	IDA	0.90	0.85	0.87	4.65%	7.10%	10.65%	10.84%	11.04%
Northeast Utilities	NU	0.75	0.93	0.84	4.65%	7.10%	9.98%	10.60%	11.23%
Pinnacle West Capital	PNW	0.80	0.78	0.79	4.65%	7.10%	10.18%	10.26%	10.33%
Portland General	POR	0.80	0.85	0.82	4.65%	7.10%	10.33%	10.50%	10.68%
Progress Energy	PGN	0.75	0.85	0.80	4.65%	7.10%	9.98%	10.33%	10.68%
Westar Energy	WR	0.85	0.92	0.88	4.65%	7.10%	10.69%	10.92%	11.16%
MEAN		0.83	0.89	0.86			10.47%	10.76%	11.04%
						Flotation Adjustment	0.16%	0.16%	0.16%
						Adjusted Mean ROE	10.63%	10.92%	11.20%

Notes
[1] Source: Value Line
[2] Source: Bloomberg
[3] Equals mean of Cols. [1], [2]
[4] Source: Blue Chip Financial Forecast, October 1, 2008
[5] Source: Morningstar, Inc.
[6] Equals Col [4] + (Min (Cols [1], [2]) x Col [5])
[7] Equals Col. [4] +(Col. [3] x Col [5])
[8] Equals Col [4] + (Max (Cols [1], [2]) x Col [5])

Risk Premium Analysis

Quarter	Average Authorized Electric Utility ROE [1]	Average Moody's Utility Baa Bond Index [2]	Risk Premium (ROE-Moody's Utility Baa Index)
1990.1	12.62%	9.92%	2.70%
1990.2	12.85%	10.08%	2.77%
1990.3	12.54%	10.12%	2.42%
1990.4	12.68%	10.12%	2.56%
1991.1	12.66%	9.79%	2.87%
1991.2	12.67%	9.69%	2.98%
1991.3	12.49%	9.50%	2.99%
1991.4	12.42%	9.22%	3.20%
1992.1	12.38%	9.08%	3.30%
1992.2	11.83%	9.01%	2.82%
1992.3	12.03%	8.60%	3.43%
1992.4	12.14%	8.77%	3.37%
1993.1	11.84%	8.33%	3.51%
1993.2	11.64%	8.11%	3.53%
1993.3	11.15%	7.62%	3.53%
1993.4	11.04%	7.56%	3.48%
1994.1	11.07%	7.84%	3.22%
1994.2	11.13%	8.57%	2.56%
1994.3	12.75%	8.84%	3.91%
1994.4	11.24%	9.25%	1.99%
1995.1	11.96%	8.95%	3.01%
1995.2	11.27%	8.33%	2.94%
1995.3	11.37%	8.11%	3.26%
1995.4	11.58%	7.75%	3.83%
1996.1	11.46%	7.86%	3.60%
1996.2	11.46%	8.43%	3.03%
1996.3	10.70%	8.37%	2.33%
1996.4	11.56%	8.00%	3.56%
1997.1	11.08%	8.15%	2.93%
1997.2	11.62%	8.27%	3.34%
1997.3	12.00%	7.88%	4.12%
1997.4	11.06%	7.52%	3.54%
1998.1	11.31%	7.34%	3.98%
1998.2	12.20%	7.31%	4.89%
1998.3	11.65%	7.19%	4.46%
1998.4	12.30%	7.23%	5.07%
1999.1	10.40%	7.42%	2.98%
1999.2	10.94%	7.76%	3.18%
1999.3	10.75%	8.10%	2.65%
1999.4	11.10%	8.24%	2.86%
2000.1	11.08%	8.38%	2.70%
2000.2	11.00%	8.58%	2.42%
2000.3	11.68%	8.30%	3.38%
2000.4	12.50%	8.19%	4.31%
2001.1	11.38%	7.93%	3.45%
2001.2	10.88%	8.06%	2.81%
2001.3	10.78%	8.04%	2.73%
2001.4	11.57%	8.08%	3.49%
2002.1	10.05%	8.21%	1.84%
2002.2	11.41%	8.28%	3.13%
2002.3	11.25%	7.81%	3.44%
2002.4	11.57%	7.76%	3.80%
2003.1	11.43%	7.23%	4.20%
2003.2	11.16%	6.56%	4.60%
2003.3	9.88%	6.88%	3.00%
2003.4	11.09%	6.70%	4.40%
2004.1	11.00%	6.29%	4.71%
2004.2	10.64%	6.68%	3.96%
2004.3	10.75%	6.46%	4.29%
2004.4	10.91%	6.14%	4.77%
2005.1	10.55%	5.91%	4.64%
2005.2	10.13%	5.84%	4.28%
2005.3	10.85%	5.81%	5.03%
2005.4	10.59%	6.14%	4.46%
2006.1	10.38%	6.17%	4.21%
2006.2	10.63%	6.58%	4.05%
2006.3	10.06%	6.43%	3.63%
2006.4	10.37%	6.11%	4.26%
2007.1	10.39%	6.12%	4.27%
2007.2	10.27%	6.34%	3.93%
2007.3	10.02%	6.48%	3.53%
2007.4	10.39%	6.38%	4.01%
2008.1	10.15%	6.54%	3.61%
2008.2	10.41%	6.84%	3.56%
2008.3	10.38%	7.03%	3.35%
Mean	*11.29%*	*7.78%*	*3.51%*

Risk Premium Analysis



SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.73153943
R Square	0.535149937
Adjusted R Square	0.528782128
Standard Error	0.004991817
Observations	75

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.002094126	0.002094126	84.03988409	9.04854E-14
Residual	73	0.001819032	2.49182E-05		
Total	74	0.003913158			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.071581274	0.004025424	17.78229367	3.03486E-28	0.063558615	0.07960393	0.063558615	0.079603933
X Variable 1	-0.469400894	0.051203682	-9.167326987	9.04854E-14	-0.571449684	-0.36735211	-0.571449684	-0.367352105

Scenario (Moody's Utility Baa Bond Index)	Moodys Utility Baa Bond Rate	Risk Premium [3]	ROE
30-day average as of 10/10/2008	7.34%	3.71%	11.05%
90-day average as of 10/10/08	7.09%	3.83%	10.92%
180-day average as of 10/10/2008	6.90%	3.92%	10.82%
MEAN		3.82%	10.93%
Current Baa-Rated Utility Issuance Level as of 10/15/2008	8.25%	3.29%	11.54%

NOTES

[1] Source: Regulatory Research Associates, Rate Case Statistics, accessed October 13, 2008.

[2] Source: Bloomberg Professional Service. Quarterly bond yields are the average of each month's average yield.

[3] Independent variable = Moody's Utility Baa Bond Yield; Dependent Variable = Risk Premium.

[4] Current Baa-Rated Utility Issuance Level based on Ohio Edison 8.25% issuance due 10/15/2038, announced 10/15/2008

Risk Premium Analysis

AREG

MODEL: MOD_1

Model Description:

Variable: RISKPREM
Regressors: MOODUBAA

95.00 percent confidence intervals will be generated.

Split group number: 1 Series length: 75
No missing data.

Termination criteria:
Parameter epsilon: .001
Maximum number of iterations: 10

Initial values:

Estimate of Autocorrelation Coefficient

Rho 0

Prais-Winsten Estimates

Multiple R .73153944
R-Squared .53514995
Adjusted R-Squared .52878214
Standard Error .00499182
Durbin-Watson 1.6693075

Analysis of Variance:

	DF	Sum of Squares	Mean Square
Regression	1	.00209413	.00209413
Residuals	73	.00181903	.00002492

Variables in the Equation:

	B	SEB	BETA	T	SIG T
MOODUBAA	-.46940090	.05120368	-.73153944	-9.167327	.0000000
CONSTANT	.07158127	.00402542	.	17.782294	.0000000

Iteration History:

Iteration	Rho	SE Rho	DW	MSE
1	.15716032	.11638661	2.0249237	.00002463
2	.15845398	.11636224	2.0278521	.00002463

Conclusion of estimation phase.
Estimation terminated at iteration number 3 because:
All parameter estimates changed by less than .001

FINAL PARAMETERS:

Estimate of Autocorrelation Coefficient

Rho .15847096
Standard Error of Rho .11636192

Prais-Winsten Estimates

Multiple R .6846677
R-Squared .46876986
Adjusted R-Squared .45401347
Standard Error .00496239
Durbin-Watson 2.0278905

Analysis of Variance:

	DF	Sum of Squares	Mean Square
Regression	1	.00156456	.00156456
Residuals	72	.00177302	.00002463

Variables in the Equation:

	B	SEB	BETA	T	SIG T
MOODUBAA	-.47633171	.05975920	-.68466770	-7.970852	.000000
CONSTANT	.07211313	.00470101	.	15.339907	.0000000

The following new variables are being created:

Name	Label
FIT_1	Fit for RISKPREM from AREG, MOD_1
ERR_1	Error for RISKPREM from AREG, MOD_1
LCL_1	95% LCL for RISKPREM from AREG, MOD_1
UCL_1	95% UCL for RISKPREM from AREG, MOD_1
SEP_1	SE of fit for RISKPREM from AREG, MOD_1

FLOTATION COST ADJUSTMENT

Flotation Costs (two most recent common stock issuances per company, if available)

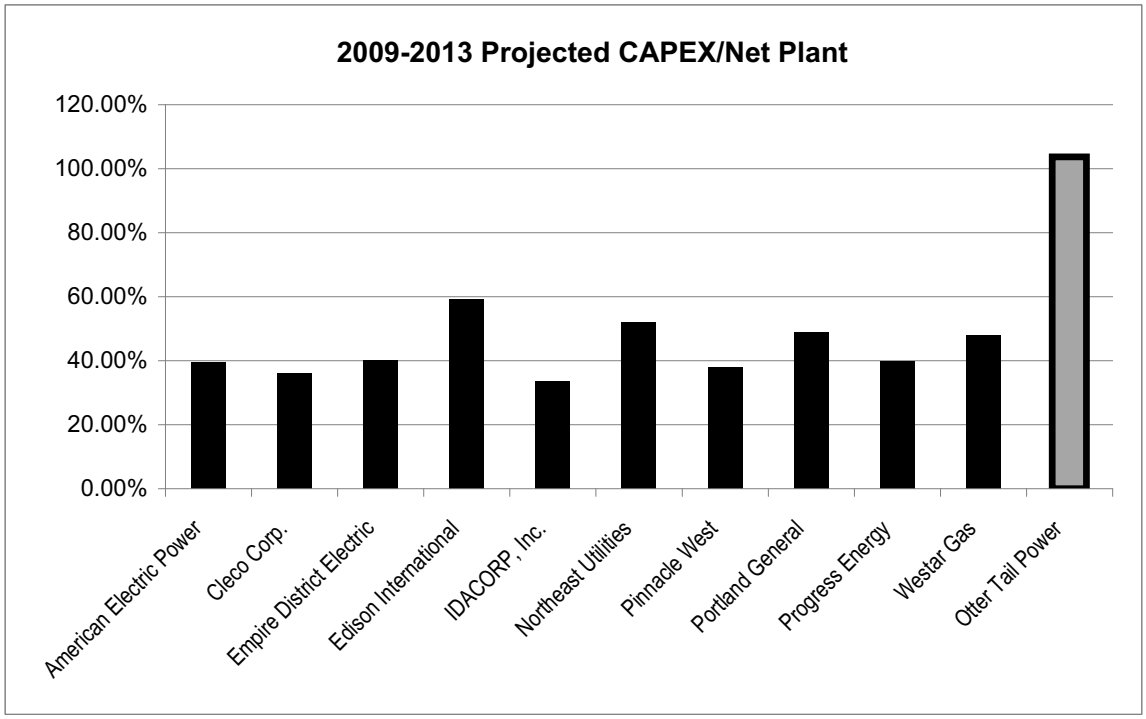
Date	Issuing Entity	Shares Issued	Offering Price	Underwriting Discount	Offering Expense	Net Proceeds Per Share	Total Flotation Costs	Gross Equity Issue before Costs	Net Proceeds	Flotation Cost Percentage
Open Market Issuances										
9/19/2008	Otter Tail Corporation	4,500,000	$30.00	$1.0875	$400,000	$28.824	$5,293,750	$135,000,000	$129,706,250	3.921%
12/7/2004	Otter Tail Corporation	2,900,000	$25.45	$0.9500	$300,000	$24.397	$3,055,000	$73,805,000	$70,750,000	4.139%
2/27/2003	American Electric Power	50,000,000	$20.95	$0.6285	$550,000	$20.311	$31,975,000	$1,047,500,000	$1,015,525,000	3.053%
6/5/2002	American Electric Power	16,000,000	$40.90	$1.2270	$370,000	$39.650	$20,002,000	$654,400,000	$634,398,000	3.057%
8/14/2006	Cleco Corporation	6,000,000	$23.75	$0.8900	$225,000	$22.823	$5,565,000	$142,500,000	$136,935,000	3.905%
11/9/2004	Cleco Corporation	1,750,000	$18.50	$0.6475	$200,000	$17.738	$1,333,125	$32,375,000	$31,041,875	4.118%
12/12/2007	Empire District Electric	3,000,000	$23.00	$0.9775	$250,000	$21.939	$3,182,500	$69,000,000	$65,817,500	4.612%
6/16/2006	Empire District Electric	3,300,000	$20.25	$0.8600	$250,000	$19.314	$3,088,000	$66,825,000	$63,737,000	4.621%
10/31/2007	IDACORP	3,500,000	$30.00	$1.2000	$300,000	$28.714	$4,500,000	$105,000,000	$100,500,000	4.286%
12/12/2005	Northeast Utilities	20,000,000	$19.09	$0.6200	$340,000	$18.453	$12,740,000	$381,800,000	$369,060,000	3.337%
4/27/2005	Pinnacle West Capital Corporation	5,300,000	$42.00	$1.3650	$250,000	$40.588	$7,484,500	$222,600,000	$215,115,500	3.362%
12/17/2002	Pinnacle West Capital Corporation	5,700,000	$31.50	$1.1030	$102,750	$30.379	$6,389,850	$179,550,000	$173,160,150	3.559%
6/12/2007	Portland General	21,000,000	$26.00	$0.7800	$700,000	$25.187	$17,080,000	$546,000,000	$528,920,000	3.128%
11/6/2002	Progress Energy	14,670,000	$41.90	$1.0000	$625,000	$40.857	$15,295,000	$614,673,000	$599,378,000	2.488%
8/16/2001	Progress Energy	11,000,000	$40.00	$1.4000	$750,000	$38.532	$16,150,000	$440,000,000	$423,850,000	3.670%
5/29/2008	Westar Energy	6,000,000	$24.28	$0.8498	$325,000	$23.376	$5,423,800	$145,680,000	$140,256,200	3.723%
9/15/2007	Westar Energy	7,600,000	$25.25	$0.88375	$325,000	$24.323	$7,041,500	$191,900,000	$184,858,500	3.669%
Weighted Average Flotation Costs							$165,599,025	$5,048,608,000 FLOTATION COSTS	$4,883,008,975	3.280% 3.28%

Flotation Cost Adjustment - Gas Proxy Group

		[1] Annualized Dividend	[2] Stock Price	[3] Dividend Yield	[4] Expected Dividend Yield	[5] Expected Dividend Yield Adjusted for Flotation Costs	[6] Zacks EPS Growth	[7] Value Line EPS Growth	[8] Average Growth Estimate	[9] DCF k(e)	[10] Flotation Adjusted DCF k(e)
ELECTRIC UTILITIES											
American Electric Power	AEP	$1.64	$36.32	4.52%	4.67%	4.83%	6.30%	7.50%	6.90%	11.57%	11.73%
Cleco Corp.	CNL	$0.90	$24.69	3.65%	3.87%	4.00%	14.00%	10.50%	12.25%	16.12%	16.25%
Edison International	EIX	$1.22	$39.59	3.08%	3.19%	3.30%	8.80%	5.00%	6.90%	10.09%	10.20%
Empire District Electric	EDE	$1.28	$21.02	6.09%	6.39%	6.61% -		10.00%	10.00%	16.39%	16.61%
Entergy Corp.	ETR	$3.00	$89.49	3.35%	3.53%	3.65%	11.50%	10.00%	10.75%	14.28%	14.40%
IDACORP, Inc.	IDA	$1.20	$29.13	4.12%	4.20%	4.34%	6.00%	2.00%	4.00%	8.20%	8.34%
Northeast Utilities	NU	$0.85	$24.97	3.40%	3.59%	3.71%	10.00%	11.50%	10.75%	14.34%	14.46%
Pinnacle West Capital	PNW	$2.10	$34.41	6.10%	6.23%	6.45%	6.70%	2.00%	4.35%	10.58%	10.80%
Portland General	POR	$0.98	$23.80	4.12%	4.26%	4.40%	6.50%	7.00%	6.75%	11.01%	11.15%
Progress Energy	PGN	$2.46	$42.91	5.73%	5.88%	6.08%	5.00%	5.00%	5.00%	10.88%	11.08%
Westar Energy	WR	$1.16	$22.36	5.19%	5.28%	5.46%	5.30%	2.00%	3.65%	8.93%	9.11%
MEAN										12.04%	12.19%

MEAN										12.04%	12.19%
UNADJUSTED CONSTANT GROWTH DCF MEAN											12.04%
DIFFERENCE (FLOTATION COST ADJUSTMENT)											0.16% [11]

[1] Source: Bloomberg
[2] Source: Bloomberg, 30 day average price as of October 13, 2008
[3] = [1] / [2] or [Annualized Dividend] / [Price]
[4] = [3] x [1+ .5g] or [Dividend Yield] x [1 + (.5 x average growth rate)]
[5] = [Expected Dividend Yield] / [1- Flotation Cost Percentage]
[6] Source: Zacks
[7] Source: Value Line
[8] Average of columns [6] and [7]
[9] = Column [4] + Column [8]
[10] = Column [5] + Column [8]
[11] Equals Mean Adjusted DCF, Column [10] - Mean Unadjusted DCF, Column [9]



Projected CAPEX / 2007 Net Plant

Company[1]	2009-2013[2]
American Electric Power	39.59%
Cleco Corp.	36.09%
Empire District Electric	40.33%
Edison International	59.19%
IDACORP, Inc.	33.47%
Northeast Utilities	51.92%
Pinnacle West	37.95%
Portland General	48.90%
Progress Energy	39.70%
Westar Gas	48.06%
Otter Tail Power	103.68%

Notes:

[1] Value Line does not have current projections for Entergy Corp.

[2] Otter Tail Power Capital expenditures are projected for 2009 through 2012, however Value Line projects capital expenditures for 2009 and 2011 through 2013.

PROXY GROUP MEDIAN MARKET CAPITALIZATION

Company Name (Ticker)	Ticker	Customers (Mil) [1]	Market Cap ($Bil) [2]	Market to Book Ratio [2]
American Electric Power	AEP	5.2	$ 12.1	1.11
Cleco Corp.	CNL	0.3	$ 1.3	1.18
Edison International	EIX	4.8	$ 10.7	1.21
Empire Dist. Elec.	EDE	0.2	$ 0.6	1.06
Entergy Corp.	ETR	2.6	$ 14.8	1.91
IDACORP, Inc.	IDA	0.5	$ 1.2	0.91
Northeast Utilities	NU	1.9	$ 3.2	1.02
Pinnacle West Capital	PNW	1.1	$ 3.1	0.80
Portland General	POR	0.8	$ 1.2	0.86
Progress Energy	PGN	3.1	$ 9.5	1.09
Westar Energy	WR	0.7	$ 1.9	0.92
MEDIAN		1.1	$ 3.08	1.06
MEAN		1.9	$ 5.4	1.10

SIZE PREMIUM CALCULATION

OTP Equity ($ Millions)	$	229.633	[3]
Median Market to Book for Comp Group	$	1.06	
OTP Implied Market Cap ($ Millions)	$	243.411	

Decile	Market Capitalization (in $millions) Low		High		Size Premium [4]	
2	$	9,274.049	$	20,234.526	0.68%	
3	$	5,025.807	$	9,206.713	0.76%	
4	$	3,426.586	$	5,012.577	0.93%	
5	$	2,413.583	$	3,422.743	1.47%	
6	$	1,633.668	$	2,411.794	1.60%	
7	$	1,129.192	$	1,633.320	1.50%	
8	$	725.267	$	1,128.765	2.20%	
9	$	363.549	$	723.258	2.56%	
10a	$	211.628	$	363.479	3.99%	
10b	$	1.922	$	211.590	9.73%	
Proxy Group Median			$	3,080.000	1.47%	
OTP Implied Market Capitalization			$	243.411	3.99%	
Difference from Proxy Group Median					2.52%	[5]

NOTES

[1] Includes electric and gas. Source: Company Form 10-Ks.
[2] Yahoo! Finance, as of October 16, 2008
[3] Direct Testimony and Schedules of Kevin Moug, Exhibit___(KGM-1)
[4] Source: 2008 Morningstar Risk Premia Over Time Report; Estimates for 1926 - 2007
[5] Equals 3.99%-1.47%

Equity Ratio

Summary Data

Company Name	Ticker	2008 Q2	2008 Q1	2007 Q4	2007 Q3	2007 Q2	2007 Q1	2006 Q4	2006 Q3	Overall Average
American Electric Power	AEP	46.95%	46.71%	47.12%	47.29%	47.18%	47.62%	47.68%	49.22%	47.47%
Cleco Corp.	CNL	46.53%	49.25%	58.50%	58.65%	55.45%	54.09%	53.18%	52.58%	53.53%
Edison International	EIX	53.59%	55.04%	56.14%	56.92%	55.00%	54.63%	53.57%	54.73%	54.95%
Empire District Electric	EDE	52.85%	53.78%	55.65%	51.21%	51.61%	52.06%	54.46%	56.60%	53.53%
Entergy Corp.	ETR	47.28%	46.97%	47.24%	49.84%	49.55%	49.49%	48.46%	49.58%	48.55%
IDACORP, Inc.	IDA	45.33%	45.79%	46.54%	45.61%	47.92%	49.39%	49.73%	49.10%	47.43%
Northeast Utilities	NU	48.63%	48.20%	49.03%	46.25%	46.54%	46.80%	46.96%	47.23%	47.45%
Pinnacle West Capital	PNW	54.50%	52.22%	51.87%	52.66%	52.52%	52.56%	52.61%	51.50%	52.56%
Portland General	POR	50.92%	51.42%	50.06%	51.28%	53.93%	54.95%	53.02%	54.40%	52.50%
Progress Energy	PGN	47.54%	50.55%	50.13%	49.76%	50.88%	50.34%	49.71%	49.69%	49.83%
Westar Energy	WR	63.29%	65.12%	64.55%	68.10%	67.24%	67.94%	67.89%	54.84%	64.87%
Proxy Group Average										52.06%

Underlying Data

		Equity Ratio							
Company Name	Ticker	2008 Q2	2008 Q1	2007 Q4	2007 Q3	2007 Q2	2007 Q1	2006 Q4	2006 Q3
AEP Texas Central Company	AEP	42.09%	37.40%	40.57%	39.84%	38.16%	37.70%	37.63%	41.44%
AEP Texas North Company	AEP	47.34%	50.15%	52.50%	54.67%	49.98%	52.16%	52.71%	53.13%
Appalachian Power Company	AEP	42.16%	40.03%	40.38%	40.48%	42.34%	44.10%	44.02%	42.75%
Columbus Southern Power Company	AEP	45.93%	45.92%	45.57%	46.28%	47.54%	47.36%	46.91%	47.56%
Indiana Michigan Power Company	AEP	46.11%	46.18%	46.39%	46.42%	45.96%	45.03%	44.12%	47.00%
Kentucky Power Company	AEP	44.62%	44.57%	45.29%	36.97%	44.30%	44.60%	43.63%	43.57%
Kingsport Power Company	AEP	56.38%	55.90%	56.03%	55.75%	55.01%	54.81%	54.63%	55.27%
Ohio Power Company	AEP	49.00%	48.51%	47.03%	46.48%	46.38%	46.23%	47.77%	49.76%
Public Service Company of Oklahoma	AEP	41.85%	41.04%	41.30%	43.96%	40.67%	42.27%	44.18%	47.45%
Southwestern Electric Power Company	AEP	41.52%	45.69%	46.21%	47.84%	46.16%	46.77%	48.23%	54.80%
Wheeling Power Co	AEP	59.50%	58.44%	57.06%	61.53%	62.46%	62.83%	60.66%	58.67%
Cleco Power LLC	CNL	46.53%	49.25%	58.50%	58.65%	55.45%	54.09%	53.18%	52.58%
Southern California Edison Co.	EIX	53.59%	55.04%	56.14%	56.92%	55.00%	54.63%	53.57%	54.73%
Empire District Electric Company	EDE	52.85%	53.78%	55.65%	51.21%	51.61%	52.06%	54.46%	56.60%
Entergy Arkansas, Inc.	ETR	52.11%	53.54%	53.31%	52.33%	54.59%	54.41%	54.27%	54.80%
Entergy Gulf States Louisiana, LLC	ETR	37.02%	35.62%	35.61%	49.77%	49.07%	48.87%	48.97%	49.15%
Entergy Louisiana, LLC	ETR	55.52%	57.80%	57.51%	57.42%	56.18%	55.68%	55.27%	55.69%
Entergy Mississippi, Inc.	ETR	49.17%	50.29%	50.42%	50.28%	49.63%	49.10%	45.65%	45.76%
Entergy New Orleans, Inc.	ETR	41.62%	40.29%	39.36%	39.40%	38.26%	39.39%	38.14%	42.49%
Entergy Texas, Inc.	ETR	48.25%	44.31%						
Idaho Power Co.	IDA	45.33%	45.79%	46.54%	45.61%	47.92%	49.39%	49.73%	49.10%
Connecticut Light and Power Company	NU	48.92%	51.02%	51.75%	46.15%	47.60%	48.40%	46.91%	48.30%
Public Service Company of New Hampsh	NU	45.96%	46.84%	47.34%	47.80%	46.71%	47.38%	46.24%	46.66%
Western Massachusetts Electric Compan	NU	51.01%	46.74%	47.99%	44.80%	45.31%	44.62%	47.73%	46.72%
Arizona Public Service Company	PNW	54.50%	52.22%	51.87%	52.66%	52.52%	52.56%	52.61%	51.50%
Portland General Electric Company	POR	50.92%	51.42%	50.06%	51.28%	53.93%	54.95%	53.02%	54.40%
Carolina Power & Light Company	PGN	54.15%	51.43%	51.74%	51.45%	49.03%	48.60%	47.87%	47.89%
Florida Power Corporation	PGN	40.93%	49.67%	48.53%	48.08%	52.72%	52.08%	51.56%	51.49%
Kansas Gas and Electric Company	WR	64.72%	70.90%	70.84%	79.01%	78.57%	78.43%	78.65%	53.06%
Westar Energy (KPL)	WR	61.86%	59.34%	58.26%	57.19%	55.91%	57.45%	57.14%	56.63%

Long Term Debt Ratio

Summary Data

Company Name	Ticker	2008 Q2	2008 Q1	2007 Q4	2007 Q3	2007 Q2	2007 Q1	2006 Q4	2006 Q3	Overall Average
American Electric Power	AEP	50.67%	50.03%	51.05%	49.86%	49.89%	49.89%	49.63%	50.21%	50.15%
Cleco Corp.	CNL	53.47%	50.75%	41.50%	41.35%	44.55%	45.91%	46.82%	45.62%	46.25%
Edison International	EIX	40.48%	41.90%	39.93%	43.08%	43.58%	44.39%	46.43%	45.27%	43.13%
Empire District Electric	EDE	46.09%	39.50%	41.23%	42.23%	43.42%	43.94%	37.46%	38.95%	41.60%
Entergy Corp.	ETR	51.59%	53.03%	52.76%	49.74%	50.45%	48.64%	49.26%	49.02%	50.56%
IDACORP, Inc.	IDA	46.03%	46.61%	47.75%	48.17%	51.08%	46.27%	47.74%	49.53%	47.90%
Northeast Utilities	NU	50.74%	47.18%	49.02%	50.23%	45.18%	46.50%	46.64%	48.35%	47.98%
Pinnacle West Capital	PNW	43.98%	44.82%	44.75%	45.00%	47.03%	47.44%	47.39%	48.50%	46.11%
Portland General	POR	49.08%	48.58%	49.94%	48.72%	46.07%	43.79%	43.47%	45.60%	46.91%
Progress Energy	PGN	52.19%	49.45%	48.84%	49.22%	49.09%	49.66%	50.29%	50.30%	49.88%
Westar Energy	WR	36.71%	34.88%	35.45%	31.90%	32.76%	32.06%	32.11%	45.16%	35.13%
Proxy Group Average										45.96%

Underlying Data

		Long Term Debt Ratio							
Company Name	Ticker	2008 Q2	2008 Q1	2007 Q4	2007 Q3	2007 Q2	2007 Q1	2006 Q4	2006 Q3
AEP Texas Central Company	AEP	57.91%	62.60%	59.43%	60.16%	61.84%	62.30%	62.37%	58.56%
AEP Texas North Company	AEP	52.66%	40.35%	42.23%	43.01%	48.27%	45.99%	47.29%	46.87%
Appalachian Power Company	AEP	55.94%	59.97%	54.36%	59.52%	52.56%	54.17%	55.23%	57.25%
Columbus Southern Power Company	AEP	54.07%	47.79%	50.71%	48.88%	49.79%	52.64%	53.05%	52.44%
Indiana Michigan Power Company	AEP	45.24%	47.80%	52.11%	52.76%	53.53%	53.41%	52.79%	52.01%
Kentucky Power Company	AEP	49.98%	50.86%	52.47%	63.03%	52.23%	52.94%	52.75%	53.50%
Kingsport Power Company	AEP	43.62%	44.10%	43.97%	44.25%	44.99%	45.19%	45.37%	44.73%
Ohio Power Company	AEP	47.57%	49.75%	50.89%	51.71%	53.27%	44.89%	47.92%	48.90%
Public Service Company of Oklahoma	AEP	51.67%	55.22%	58.70%	43.79%	45.06%	48.01%	50.11%	52.55%
Southwestern Electric Power Company	AEP	58.21%	50.35%	53.70%	42.85%	49.74%	52.08%	39.74%	44.20%
Wheeling Power Co	AEP	40.50%	41.56%	42.94%	38.47%	49.74%	37.17%	39.34%	41.33%
Cleco Power LLC	CNL	53.47%	50.75%	41.50%	41.35%	44.55%	45.91%	46.82%	45.62%
Southern California Edison Co.	EIX	40.48%	41.90%	39.93%	43.08%	43.58%	44.39%	46.43%	45.27%
Empire District Electric Company	EDE	46.09%	39.50%	41.23%	42.23%	43.42%	43.94%	37.46%	38.95%
Entergy Arkansas, Inc.	ETR	44.51%	46.46%	46.69%	45.59%	45.41%	45.59%	45.73%	45.20%
Entergy Gulf States Louisiana, LLC	ETR	62.98%	64.38%	64.39%	50.23%	50.93%	51.13%	51.03%	50.85%
Entergy Louisiana, LLC	ETR	44.48%	42.20%	42.49%	42.58%	43.82%	44.32%	44.73%	44.31%
Entergy Mississippi, Inc.	ETR	47.42%	49.71%	49.58%	49.72%	50.37%	50.90%	54.35%	54.24%
Entergy New Orleans, Inc.	ETR	58.38%	59.71%	60.64%	60.60%	61.74%	51.25%	50.46%	50.51%
Entergy Texas, Inc.	ETR	51.75%	55.69%						
Idaho Power Co.	IDA	46.03%	46.61%	47.75%	48.17%	51.08%	46.27%	47.74%	49.53%
Connecticut Light and Power Company	NU	49.83%	45.02%	47.22%	50.18%	47.69%	48.64%	44.21%	46.59%
Public Service Company of New Hampsh	NU	54.04%	49.32%	50.78%	52.20%	46.57%	49.96%	50.15%	52.56%
Western Massachusetts Electric Compan	NU	48.35%	47.19%	49.07%	48.29%	41.29%	40.92%	45.56%	45.91%
Arizona Public Service Company	PNW	43.98%	44.82%	44.75%	45.00%	47.03%	47.44%	47.39%	48.50%
Portland General Electric Company	POR	49.08%	48.58%	49.94%	48.72%	46.07%	43.79%	43.47%	45.60%
Carolina Power & Light Company	PGN	45.85%	48.57%	46.21%	46.52%	50.90%	51.40%	52.13%	52.08%
Florida Power Corporation	PGN	58.53%	50.33%	51.47%	51.92%	47.28%	47.92%	48.44%	48.51%
Kansas Gas and Electric Company	WR	35.28%	29.10%	29.16%	20.99%	21.43%	21.57%	21.35%	46.94%
Westar Energy (KPL)	WR	38.14%	40.66%	41.74%	42.81%	44.09%	42.55%	42.86%	43.37%

Short Term Debt Ratio

Summary Data

Company Name	Ticker	2008 Q2	2008 Q1	2007 Q4	2007 Q3	2007 Q2	2007 Q1	2006 Q4	2006 Q3	Overall Average
American Electric Power	AEP	2.90%	3.98%	2.24%	3.48%	3.58%	3.04%	3.28%	0.70%	2.90%
Cleco Corp.	CNL	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.79%	0.22%
Edison International	EIX	5.92%	3.07%	3.93%	0.00%	1.41%	0.98%	0.00%	0.00%	1.91%
Empire District Electric	EDE	1.05%	6.72%	3.12%	6.55%	4.96%	4.00%	8.09%	4.45%	4.87%
Entergy Corp.	ETR	1.13%	0.00%	0.00%	0.42%	0.00%	1.87%	2.28%	1.40%	0.89%
IDACORP, Inc.	IDA	8.64%	7.60%	5.71%	6.21%	1.00%	4.34%	2.53%	1.37%	4.67%
Northeast Utilities	NU	0.63%	4.62%	1.95%	3.53%	8.28%	6.69%	6.40%	4.42%	4.56%
Pinnacle West Capital	PNW	1.52%	2.96%	3.37%	2.33%	0.46%	0.00%	0.00%	0.00%	1.33%
Portland General	POR	0.00%	0.00%	0.00%	0.00%	0.00%	1.26%	3.51%	0.00%	0.60%
Progress Energy	PGN	0.27%	0.00%	1.03%	1.01%	0.03%	0.00%	0.00%	0.01%	0.30%
Westar Energy	WR									
Proxy Group Average										2.23%

Underlying Data

		Short Term Debt Ratio							
Company Name	Ticker	2008 Q2	2008 Q1	2007 Q4	2007 Q3	2007 Q2	2007 Q1	2006 Q4	2006 Q3
AEP Texas Central Company	AEP	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AEP Texas North Company	AEP	0.00%	9.50%	5.26%	2.32%	1.75%	1.86%	0.00%	0.00%
Appalachian Power Company	AEP	1.90%	0.00%	5.26%	0.00%	5.10%	1.73%	0.74%	0.00%
Columbus Southern Power Company	AEP	0.00%	6.29%	3.72%	4.84%	2.66%	0.00%	0.03%	0.00%
Indiana Michigan Power Company	AEP	8.65%	6.03%	1.50%	0.82%	0.51%	1.57%	3.09%	0.99%
Kentucky Power Company	AEP	5.40%	4.57%	2.24%	0.00%	3.47%	2.46%	3.62%	2.93%
Kingsport Power Company	AEP								
Ohio Power Company	AEP	3.43%	1.74%	2.08%	1.81%	0.35%	8.88%	4.31%	1.33%
Public Service Company of Oklahoma	AEP	6.48%	3.74%	0.00%	12.25%	14.27%	9.72%	5.71%	0.00%
Southwestern Electric Power Company	AEP	0.27%	3.95%	0.09%	9.31%	4.10%	1.15%	12.04%	1.01%
Wheeling Power Co	AEP								
Cleco Power LLC	CNL	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.79%
Southern California Edison Co.	EIX	5.92%	3.07%	3.93%	0.00%	1.41%	0.98%	0.00%	0.00%
Empire District Electric Company	EDE	1.05%	6.72%	3.12%	6.55%	4.96%	4.00%	8.09%	4.45%
Entergy Arkansas, Inc.	ETR	3.38%	0.00%	0.00%	2.08%	0.00%	0.00%	0.00%	0.00%
Entergy Gulf States Louisiana, LLC	ETR	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Entergy Louisiana, LLC	ETR	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Entergy Mississippi, Inc.	ETR	3.41%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Entergy New Orleans, Inc.	ETR	0.00%	0.00%	0.00%	0.00%	0.00%	9.37%	11.40%	7.00%
Entergy Texas, Inc.	ETR	0.00%	0.00%						
Idaho Power Co.	IDA	8.64%	7.60%	5.71%	6.21%	1.00%	4.34%	2.53%	1.37%
Connecticut Light and Power Company	NU	1.25%	3.96%	1.03%	3.67%	4.71%	2.96%	8.88%	5.10%
Public Service Company of New Hampsh	NU	0.00%	3.84%	1.87%	0.00%	6.72%	2.66%	3.61%	0.78%
Western Massachusetts Electric Compan	NU	0.64%	6.07%	2.94%	6.91%	13.40%	14.47%	6.71%	7.38%
Arizona Public Service Company	PNW	1.52%	2.96%	3.37%	2.33%	0.46%	0.00%	0.00%	0.00%
Portland General Electric Company	POR	0.00%	0.00%	0.00%	0.00%	0.00%	1.26%	3.51%	0.00%
Carolina Power & Light Company	PGN	0.00%	0.00%	2.06%	2.03%	0.07%	0.00%	0.00%	0.03%
Florida Power Corporation	PGN	0.54%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Kansas Gas and Electric Company	WR								0.00%
Westar Energy (KPL)	WR								

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51 P.U.R.(NS) 193, 320 U.S. 591, 64 S.Ct. 281, 88 L.Ed. 333
(Cite as: 51 P.U.R.(NS) 193, 64 S.Ct. 281)

Supreme Court of the United States
FEDERAL POWER COMMISSION et al.
v.
HOPE NATURAL GAS CO.
CITY OF CLEVELAND
v.
SAME.
Nos. 34 and 35.

Argued Oct. 20, 21, 1943.
Decided Jan. 3, 1944.

Separate proceedings before the Federal Power Commission by such Commission, by the City of Cleveland and the City of Akron, and by Pennsylvania Public Utility Commission wherein the State of West Virginia and its Public Service Commission were permitted to intervene concerning rates charged by Hope Natural Gas Company which were consolidated for hearing. An order fixing rates was reversed and remanded with directions by the Circuit Court of Appeals, 134 F.2d 287, and Federal Power Commission, City of Akron and Pennsylvania Public Utility Commission in one case and the City of Cleveland in another bring certiorari.

Reversed.

Mr. Justice REED, Mr. Justice FRANKFURTER and Mr. Justice JACKSON, dissenting.

On Writs of Certiorari to the United States Circuit Court of Appeals for the Fourth Circuit.

West Headnotes

[1] **Public Utilities 317A 120**

317A Public Utilities
317AII Regulation
317Ak119 Regulation of Charges
317Ak120 k. Nature and Extent in General. Most Cited Cases
(Formerly 317Ak7.1, 317Ak7)
Rate-making is only one species of price-fixing which, like other applications of the police power, may reduce the value of the property regulated, but that does not render the regulation invalid.

[2] **Public Utilities 317A 123**

317A Public Utilities
317AII Regulation
317Ak119 Regulation of Charges
317Ak123 k. Reasonableness of Charges in General. Most Cited Cases
(Formerly 317Ak7.4, 317Ak7)
Rates cannot be made to depend upon fair value, which is the end product of the process of rate-making and not the starting point, when the value of the going enterprise depends on earnings under whatever rates may be anticipated.

[3] **Gas 190 14.3(2)**

190 Gas
190k14 Charges
190k14.3 Administrative Regulation
190k14.3(2) k. Federal Power Commission. Most Cited Cases
(Formerly 190k14(1))
The rate-making function of the Federal Power Commission under the Natural Gas Act involves the making of pragmatic adjustments, and the Commission is not bound to the use of any single formula or combination of formulae in determining rates. Natural Gas Act, § § 4(a), 5(a), 6, 15 U.S.C.A. § § 717c(a), 717d(a), 717e.

[4] **Gas 190 14.5(6)**

190 Gas
190k14 Charges
190k14.5 Judicial Review and Enforcement of Regulations
190k14.5(6) k. Scope of Review and Trial De Novo. Most Cited Cases
(Formerly 190k14(1))
When order of Federal Power Commission fixing natural gas rates is challenged in the courts, the question is whether order viewed in its entirety meets the requirements of the Natural Gas Act. Natural Gas Act, § § 4(a), 5(a), 6, 19(b), 15 U.S.C.A. § § 717c(a), 717d(a), 717e, 717r(b).

[5] **Gas 190 14.4(1)**

190 Gas
190k14 Charges
190k14.4 Reasonableness of Charges

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190k14.4(1) k. In General. Most Cited Cases
(Formerly 190k14(1))
Under the statutory standard that natural gas rates shall be "just and reasonable" it is the result reached and not the method employed that is controlling. Natural Gas Act § § 4(a), 5(a), 15 U.S.C.A. § § 717c(a), 717d(a).

[6] **Gas 190 14.5(6)**

190 Gas
190k14 Charges
190k14.5 Judicial Review and Enforcement of Regulations
190k14.5(6) k. Scope of Review and Trial De Novo. Most Cited Cases
(Formerly 190k14(1))
If the total effect of natural gas rates fixed by Federal Power Commission cannot be said to be unjust and unreasonable, judicial inquiry under the Natural Gas Act is at an end. Natural Gas Act, § § 4(a), 5(a), 6, 19(b), 15 U.S.C.A. § § 717c(a), 717d(a), 717e, 717r(b).

[7] **Gas 190 14.5(7)**

190 Gas
190k14 Charges
190k14.5 Judicial Review and Enforcement of Regulations
190k14.5(7) k. Presumptions. Most Cited Cases
(Formerly 190k14(1))
An order of the Federal Power Commission fixing rates for natural gas is the product of expert judgment, which carries a presumption of validity, and one who would upset the rate must make a convincing showing that it is invalid because it is unjust and unreasonable in its consequences. Natural Gas Act, § § 4(a), 5(a), 6, 19(b), 15 U.S.C.A. § § 717c(a), 717d(a), 717e, 717r(b).

[8] **Gas 190 14.4(1)**

190 Gas
190k14 Charges
190k14.4 Reasonableness of Charges
190k14.4(1) k. In General. Most Cited Cases
(Formerly 190k14(1))
The fixing of just and reasonable rates for natural gas by the Federal Power Commission involves a balancing of the investor and the consumer interests. Natural Gas Act, § § 4(a), 5(a), 15 U.S.C.A. § § 717c(a), 717d(a).

[9] **Gas 190 14.4(9)**

190 Gas
190k14 Charges
190k14.4 Reasonableness of Charges
190k14.4(9) k. Depreciation and Depletion. Most Cited Cases
(Formerly 190k14(1))
As respects rates for natural gas, from the investor or company point of view it is important that there be enough revenue not only for operating expenses but also for the capital costs of the business, which includes service on the debt and dividends on stock, and by such standard the return to the equity owner should be commensurate with the terms on investments in other enterprises having corresponding risks, and such returns should be sufficient to assure confidence in the financial integrity of the enterprise so as to maintain its credit and to attract capital. Natural Gas Act, § § 4(a), 5(a), 15 U.S.C.A. § § 717c(a), 717d(a).

[10] **Gas 190 14.4(9)**

190 Gas
190k14 Charges
190k14.4 Reasonableness of Charges
190k14.4(9) k. Depreciation and Depletion. Most Cited Cases
(Formerly 190k14(1))
The fixing by the Federal Power Commission of a rate of return that permitted a natural gas company to earn $2,191,314 annually was supported by substantial evidence. Natural Gas Act, § § 4(a), 5(a), 6, 19(b), 15 U.S.C.A. § § 717c(a), 717d(a), 717e, 717r(b).

[11] **Gas 190 14.4(9)**

190 Gas
190k14 Charges
190k14.4 Reasonableness of Charges
190k14.4(9) k. Depreciation and Depletion. Most Cited Cases
(Formerly 190k14(1))
Rates which enable a natural gas company to operate successfully, to maintain its financial integrity, to attract capital and to compensate its investors for the risks assumed cannot be condemned as invalid, even though they might produce only a meager return on the so-called "fair value" rate base. Natural Gas Act,

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§ § 4(a), 5(a), 6, 19(b), 15 U.S.C.A. § § 717c(a), 717d(a), 717e, 717r(b).

[12] **Gas 190 14.4(4)**

190 Gas
190k14 Charges
190k14.4 Reasonableness of Charges
190k14.4(4) k. Method of Valuation. Most Cited Cases
(Formerly 190k14(1))

A return of only 3 27/100 per cent. on alleged rate base computed on reproduction cost new to natural gas company earning an annual average return of about 9 per cent. on average investment and satisfied with existing gas rates suggests an inflation of the base on which the rate had been computed, and justified Federal Power Commission in rejecting reproduction cost as the measure of the rate base. Natural Gas Act, § § 4(a), 5(a), 15 U.S.C.A. § § 717c(a), 717d(a).

[13] **Gas 190 14.4(9)**

190 Gas
190k14 Charges
190k14.4 Reasonableness of Charges
190k14.4(9) k. Depreciation and Depletion. Most Cited Cases
(Formerly 190k14(1))

There is no constitutional requirement that owner who engages in a wasting-asset business of limited life shall receive at the end more than he has put into it, and such rule is applicable to a natural gas company since the ultimate exhaustion of its supply of gas is inevitable. Natural Gas Act, § § 4(a), 5(a), 6, 19(b), 15 U.S.C.A. § § 717c(a), 717d(a), 717e, 717r(b).

[14] **Gas 190 14.4(9)**

190 Gas
190k14 Charges
190k14.4 Reasonableness of Charges
190k14.4(9) k. Depreciation and Depletion. Most Cited Cases
(Formerly 190k14(1))

In fixing natural gas rate the basing of annual depreciation on cost is proper since by such procedure the utility is made whole and the integrity of its investment is maintained, and no more is required. Natural Gas Act, § § 4(a), 5(a), 6, 19(b), 15 U.S.C.A. § § 717c(a), 717d(a), 717e, 717r(b).

[15] **Gas 190 14.3(4)**

190 Gas
190k14 Charges
190k14.3 Administrative Regulation
190k14.3(4) k. Findings and Orders. Most Cited Cases
(Formerly 190k14(1))

There are no constitutional requirements more exacting than the standards of the Natural Gas Act which are that gas rates shall be just and reasonable, and a rate order which conforms with the act is valid. Natural Gas Act, § § 4(a), 5(a), 6, 19(b), 15 U.S.C.A. § § 717c(a), 717d(a), 717e, 717r(b).

[16] **Commerce 83 62.2**

83 Commerce
83II Application to Particular Subjects and Methods of Regulation
83II(B) Conduct of Business in General
83k62.2 k. Gas. Most Cited Cases
(Formerly 83k13)

The purpose of the Natural Gas Act was to provide through the exercise of the national power over interstate commerce an agency for regulating the wholesale distribution to public service companies of natural gas moving in interstate commerce not subject to certain types of state regulation, and the act was not intended to take any authority from state commissions or to usurp state regulatory authority. Natural Gas Act, § 1 et seq., 15 U.S.C.A. § 717 et seq.

[17] **Mines and Minerals 260 92.5(3)**

260 Mines and Minerals
260III Operation of Mines, Quarries, and Wells
260III(A) Statutory and Official Regulations
260k92.5 Federal Law and Regulations
260k92.5(3) k. Oil and Gas. Most Cited Cases
(Formerly 260k92.7, 260k92)

Under the Natural Gas Act, the Federal Power Commission has no authority over the production or gathering of natural gas. Natural Gas Act, § 1(b), 15 U.S.C.A. § 717(b).

[18] **Gas 190 14.1(1)**

190 Gas
190k14 Charges
190k14.1 In General
190k14.1(1) k. In General; Amount and

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Regulation. Most Cited Cases
(Formerly 190k14(1))
The primary aim of the Natural Gas Act was to protect consumers against exploitation at the hands of natural gas companies and holding companies owning a majority of the pipe-line mileage which moved gas in interstate commerce and against which state commissions, independent producers and communities were growing quite helpless. Natural Gas Act, § § 4, 6-10, 14, 15 U.S.C.A. § § 717c, 717e-717i, 717m.

[19] **Gas 190 14.1(1)**

190 Gas
190k14 Charges
190k14.1 In General
190k14.1(1) k. In General; Amount and Regulation. Most Cited Cases
(Formerly 190k14(1))
Apart from the express exemptions contained in § 7 of the Natural Gas Act considerations of conservation are material where abandonment or extensions of facilities or service by natural gas companies are involved, but exploitation of consumers by private operators through maintenance of high rates cannot be continued because of the indirect benefits derived therefrom by a state containing natural gas deposits. Natural Gas Act, § § 4, 5, and § 7 as amended 15 U.S.C.A. § § 717c, 717d, 717f.

[20] **Commerce 83 62.2**

83 Commerce
83II Application to Particular Subjects and Methods of Regulation
83II(B) Conduct of Business in General
83k62.2 k. Gas. Most Cited Cases
(Formerly 83k13)
A limitation on the net earnings of a natural gas company from its interstate business is not a limitation on the power of the producing state, either to safeguard its tax revenues from such industry, or to protect the interests of those who sell their gas to the interstate operator, particularly where the return allowed the company by the Federal Power Commission was a net return after all such charges. Natural Gas Act, § § 4, 5, and § 7, as amended, 15 U.S.C.A. § § 717c, 717d, 717f.

[21] **Gas 190 14.4(1)**

190 Gas
190k14 Charges
190k14.4 Reasonableness of Charges
190k14.4(1) k. In General. Most Cited Cases
(Formerly 190k14(1))
The Natural Gas Act granting Federal Power Commission power to fix "just and reasonable rates" does not include the power to fix rates which will disallow or discourage resales for industrial use. Natural Gas Act, § § 4(a), 5(a), 15 U.S.C.A. § § 717c(a), 717d(a).

[22] **Gas 190 14.4(1)**

190 Gas
190k14 Charges
190k14.4 Reasonableness of Charges
190k14.4(1) k. In General. Most Cited Cases
(Formerly 190k14(1))
The wasting-asset nature of the natural gas industry does not require the maintenance of the level of rates so that natural gas companies can make a greater profit on each unit of gas sold. Natural Gas Act, § § 4(a), 5(a), 15 U.S.C.A. § § 717c(a), 717d(a).

[23] **Federal Courts 170B 452**

170B Federal Courts
170BVII Supreme Court
170BVII(B) Review of Decisions of Courts of Appeals
170Bk452 k. Certiorari in General. Most Cited Cases
(Formerly 106k383(1))
Where the Federal Power Commission made no findings as to any discrimination or unreasonable differences in rates, and its failure was not challenged in the petition to review, and had not been raised or argued by any party, the problem of discrimination was not open to review by the Supreme Court on certiorari. Natural Gas Act, § 4(b), 15 U.S.C.A. § 717c(b).

[24] **Constitutional Law 92 74**

92 Constitutional Law
92III Distribution of Governmental Powers and Functions
92III(B) Judicial Powers and Functions
92k71 Encroachment on Executive
92k74 k. Powers, Duties, and Acts Under Legislative Authority. Most Cited Cases
(Formerly 15Ak226)
Congress has entrusted the administration of the

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Natural Gas Act to the Federal Power Commission and not to the courts, and apart from the requirements of judicial review, it is not for the Supreme Court to advise the Commission how to discharge its functions. Natural Gas Act, § § 1 et seq., 19(b), 15 U.S.C.A. § § 717 et seq., 717r(b).

[25] **Gas 190 14.5(3)**

190 Gas
190k14 Charges
190k14.5 Judicial Review and Enforcement of Regulations
190k14.5(3) k. Decisions Reviewable. Most Cited Cases
(Formerly 190k14(1))
Under the Natural Gas Act, where order sought to be reviewed does not of itself adversely affect complainant but only affects his rights adversely on the contingency of future administrative action, the order is not reviewable, and resort to the courts in such situation is either premature or wholly beyond the province of such courts. Natural Gas Act, § 19(b), 15 U.S.C.A. § 717r(b).

[26] **Gas 190 14.5(4)**

190 Gas
190k14 Charges
190k14.5 Judicial Review and Enforcement of Regulations
190k14.5(4) k. Persons Entitled to Relief; Parties. Most Cited Cases
(Formerly 190k14(1))
Findings of the Federal Power Commission on lawfulness of past natural gas rates, which the Commission was without power to enforce, were not reviewable under the Natural Gas Act giving any "party aggrieved" by an order of the Commission the right of review. Natural Gas Act, § 19(b), 15 U.S.C.A. § 717r(b).

****283 *592** Mr. Francis M. Shea, Asst. Atty. Gen., for petitioners Federal Power Com'n and others.
***593** Mr. Spencer W. Reeder, of Cleveland, Ohio, for petitioner City of cleveland.
Mr. William B. Cockley, of Cleveland, Ohio, for respondent.
Mr. M. M. Neeley, of Charleston, W. Va., for State of West Virginia, as amicus curiae by special leave of Court.

Mr. Justice DOUGLAS delivered the opinion of the Court.
The primary issue in these cases concerns the validity under the Natural Gas Act of 1938, 52 Stat. 821, 15 U.S.C. s 717 et seq., 15 U.S.C.A. s 717 et seq., of a rate order issued by the Federal Power Commission reducing the rates chargeable by Hope Natural Gas Co., 44 P.U.R.,N.S., 1. On a petition for review of the order made pursuant to s 19(b) of the Act, the ***594** Circuit Court of Appeals set it aside, one judge dissenting. 4 Cir., 134 F.2d 287. The cases ****284** are here on petitions for writs of certiorari which we granted because of the public importance of the questions presented. City of Cleveland v. Hope Natural Gas Co., 319 U.S. 735, 63 S.Ct. 1165.

Hope is a West Virginia corporation organized in 1898. It is a wholly owned subsidiary of Standard Oil Co. (N.J.). Since the date of its organization, it has been in the business of producing, purchasing and marketing natural gas in that state. [FN1] It sells some of that gas to local consumers in West Virginia. But the great bulk of it goes to five customer companies which receive it at the West Virginia line and distribute it in Ohio and in Pennsylvania. [FN2] In July, 1938, the cities of Cleveland and Akron filed complaints with the Commission charging that the rates collected by Hope from East Ohio Gas Co. (an affiliate of Hope which distributes gas in Ohio) were excessive and unreasonable. Later in 1938 the Commission on its own motion instituted an investigation to determine the reasonableness of all of Hope's interstate rates. In March ***595** 1939 the Public Utility Commission of Pennsylvania filed a complaint with the Commission charging that the rates collected by Hope from Peoples Natural Gas Co. (an affiliate of Hope distributing gas in Pennsylvania) and two non-affiliated companies were unreasonable. The City of Cleveland asked that the challenged rates be declared unlawful and that just and reasonable rates be determined from June 30, 1939 to the date of the Commission's order. The latter finding was requested in aid of state regulation and to afford the Public Utilities Commission of Ohio a proper basic for disposition of a fund collected by East Ohio under bond from Ohio consumers since June 30, 1939. The cases were consolidated and hearings were held.

FN1 Hope produces about one-third of its annual gas requirements and purchases the rest under some 300 contracts.

FN2 These five companies are the East Ohio Gas Co., the Peoples Natural Gas Co., the

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River Gas Co., the Fayette County Gas Co., and the Manufacturers Light & Heat Co. The first three of these companies are, like Hope, subsidiaries of Standard Oil Co. (N.J.). East Ohio and River distribute gas in Ohio, the other three in Pennsylvania. Hope's approximate sales in m.c.f. for 1940 may be classified as follows:

Local West Virginia.	
sales.	11,000,000
East Ohio.	40,000,000
Peoples.	10,000,000
River.	400,000
Fayette.	860,000
Manufacturers.	2,000,000

Local West Virginia

Hope's natural gas is processed by Hope Construction & Refining Co., an affiliate, for the extraction of gasoline and butane. Domestic Coke Corp., another affiliate, sells coke-oven gas to Hope for boiler fuel.

On May 26, 1942, the Commission entered its order and made its findings. Its order required Hope to decrease its future interstate rates so as to reflect a reduction, on an annual basis of not less than $3,609,857 in operating revenues. And it established 'just and reasonable' average rates per m.c.f. for each of the five customer companies. [FN3] In response to the prayer of the City of Cleveland the Commission also made findings as to the lawfulness of past rates, although concededly it had no authority under the Act to fix past rates or to award reparations. 44 P.U.R.,U.S., at page 34. It found that the rates collected by Hope from East Ohio were unjust, unreasonable, excessive and therefore unlawful, by $830,892 during 1939, $3,219,551 during 1940, and $2,815,789 on an annual basis since 1940. It further found that just, reasonable, and lawful rates for gas sold by Hope to East Ohio for resale for ultimate public consumption were those required ***596** to produce $11,528,608 for 1939, $11,507,185 for 1940 and $11.910,947 annually since 1940.

FN3 These required minimum reductions of 7¢ per m.c.f. from the 36.5¢ and 35.5¢ rates previously charged East Ohio and Peoples, respectively, and 3¢ per m.c.f. from the 31.5¢ rate previously charged Fayette and Manufacturers.

The Commission established an interstate rate base of $33,712,526 which, it found, represented the 'actual legitimate cost' of the company's interstate property less depletion and depreciation and plus unoperated acreage, working capital and future net capital additions. The Commission, beginning with book cost, made ****285** certain adjustments not necessary to relate here and found the 'actual legitimate cost' of the plant in interstate service to be $51,957,416, as of December 31, 1940. It deducted accrued depletion and depreciation, which it found to be $22,328,016 on an 'economic-service-life' basis. And it added $1,392,021 for future net capital additions, $566,105 for useful unoperated acreage, and $2,125,000 for working capital. It used 1940 as a test year to estimate future revenues and expenses. It allowed over $16,000,000 as annual operating expenses-about $1,300,000 for taxes, $1,460,000 for depletion and depreciation, $600,000 for exploration and development costs, $8,500,000 for gas purchased. The Commission allowed a net increase of $421,160 over 1940 operating expenses, which amount was to take care of future increase in wages, in West Virginia property taxes, and in exploration and development costs. The total amount of deductions allowed from interstate revenues was $13,495,584.

Hope introduced evidence from which it estimated reproduction cost of the property at $97,000,000. It also presented a so-called trended 'original cost' estimate which exceeded $105,000,000. The latter was designed 'to indicate what the original cost of the property would have been if 1938 material and labor prices had prevailed throughout the whole period of the piece-meal construction of the company's property since 1898.' 44 P.U.R.,N.S., at pages 8, 9. Hope estimated by the 'percent condition' method accrued depreciation at about 35% of ***597** reproduction cost new. On that basis Hope contended for a rate base of $66,000,000. The Commission refused to place any reliance on reproduction cost new, saying that it was 'not predicated upon facts' and was 'too conjectural and illusory to be given any weight in these proceedings.' Id., 44 P.U.R.,U.S., at page 8. It likewise refused to give any 'probative value' to trended 'original cost' since it was 'not founded in fact' but was 'basically erroneous' and produced 'irrational results.' Id., 44 P.U.R., N.S., at page 9. In determining the amount of accrued depletion and depreciation the Commission, following Lindheimer v. Illinois Bell

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Telephone Co., 292 U.S. 151, 167-169, 54 S.Ct. 658, 664-666, 78 L.Ed. 1182; Federal Power Commission v. Natural Gas Pipeline Co., 315 U.S. 575, 592, 593, 62 S.Ct. 736, 745, 746, 86 L.Ed. 1037, based its computation on 'actual legitimate cost'. It found that Hope during the years when its business was not under regulation did not observe 'sound depreciation and depletion practices' but 'actually accumulated an excessive reserve' [FN4] of about $46,000,000. Id., 44 P.U.R.,N.S., at page 18. One member of the Commission thought that the entire amount of the reserve should be deducted from 'actual legitimate cost' in determining the rate base. [FN5] The majority of the ***598** Commission concluded, however, that where, as here, a business is brought under regulation for the first time and where incorrect depreciation and depletion practices have prevailed, the deduction of the reserve requirement (actual existing depreciation and depletion) rather than the excessive reserve should be made so as to ****286** lay 'a sound basis for future regulation and control of rates.' Id., 44 P.U.R.,N.S., at page 18. As we have pointed out, it determined accrued depletion and depreciation to be $22,328,016; and it allowed approximately $1,460,000 as the annual operating expense for depletion and depreciation. [FN6]

FN4 The book reserve for interstate plant amounted at the end of 1938 to about $18,000,000 more than the amount determined by the Commission as the proper reserve requirement. The Commission also noted that 'twice in the past the company has transferred amounts aggregating $7,500,000 from the depreciation and depletion reserve to surplus. When these latter adjustments are taken into account, the excess becomes $25,500,000, which has been exacted from the ratepayers over and above the amount required to cover the consumption of property in the service rendered and thus to keep the investment unimpaired.' 44 P.U.R.,N.S., at page 22.

FN5 That contention was based on the fact that 'every single dollar in the depreciation and depletion reserves' was taken 'from gross operating revenues whose only source was the amounts charged customers in the past for natural gas. It is, therefore, a fact that the depreciation and depletion reserves have been contributed by the customers and do not represent any investment by Hope.' Id., 44 P.U.R.,N.S., at page 40. And see Railroad Commission v. Cumberland Tel. & T. Co., 212 U.S. 414, 424, 425, 29 S.Ct. 357, 361, 362, 53 L.Ed. 577; 2 Bonbright, Valuation of Property (1937), p. 1139.

FN6 The Commission noted that the case was 'free from the usual complexities involved in the estimate of gas reserves because the geologists for the company and the Commission presented estimates of the remaining recoverable gas reserves which were about one per cent apart.' 44 P.U.R.,N.S., at pages 19, 20.

The Commission utilized the 'straight-line-basis' for determining the depreciation and depletion reserve requirements. It used estimates of the average service lives of the property by classes based in part on an inspection of the physical condition of the property. And studies were made of Hope's retirement experience and maintenance policies over the years. The average service lives of the various classes of property were converted into depreciation rates and then applied to the cost of the property to ascertain the portion of the cost which had expired in rendering the service.

The record in the present case shows that Hope is on the lookout for new sources of supply of natural gas and is contemplating an extension of its pipe line into Louisiana for that purpose. The Commission recognized in fixing the rates of depreciation that much material may be used again when various present sources of gas supply are exhausted, thus giving that property more than scrap value at the end of its present use.

Hope's estimate of original cost was about $69,735,000-approximately $17,000,000 more than the amount found by the Commission. The item of $17,000,000 was made up largely of expenditures which prior to December 31, 1938, were charged to operating expenses. Chief among those expenditures was some $12,600,000 expended ***599** in well-drilling prior to 1923. Most of that sum was expended by Hope for labor, use of drilling-rigs, hauling, and similar costs of well-drilling. Prior to 1923 Hope followed the general practice of the natural gas industry and charged the cost of drilling wells to operating expenses. Hope continued that practice until the Public Service Commission of West Virginia in 1923 required it to capitalize such expenditures, as does the Commission under its present Uniform System of Accounts. [FN7] The Commission refused to add such items to the rate base stating that 'No greater injustice to consumers could be done than to allow items as operating expenses and at a later date include them in the rate base, thereby placing multiple charges upon the consumers.' Id., 44 P.U.R.,N.S., at page 12. For the same reason the Commission excluded from the rate base about $1,600,000 of expenditures on properties which Hope acquired from other utilities, the latter having charged those payments to operating expenses. The Commission disallowed certain other overhead items amounting to

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over $3,000,000 which also had been previously charged to operating expenses. And it refused to add some $632,000 as interest during construction since no interest was in fact paid.

FN7 See Uniform System of Accounts prescribed for Natural Gas Companies effective January 1, 1940, Account No. 332.1.

Hope contended that it should be allowed a return of not less than 8%. The Commission found that an 8% return would be unreasonable but that 6 1/2% was a fair rate of return. That rate of return, applied to the rate base of $33,712,526, would produce $2,191,314 annually, as compared with the present income of not less than $5,801,171.

The Circuit Court of Appeals set aside the order of the Commission for the following reasons. (1) It held that the rate base should reflect the 'present fair value' of the ***600** property, that the Commission in determining the 'value' should have considered reproduction cost and trended original cost, and that 'actual legitimate cost' (prudent investment) was not the proper measure of 'fair value' where price levels had changed since the investment. (2) It concluded that the well-drilling costs and overhead items in the amount of some $17,000,000 should have been included in the rate base. (3) It held that accrued depletion and depreciation and the annual allowance for that expense should be computed on the basis of 'present fair value' of the property not on the basis of 'actual legitimate cost'.

****287** The Circuit Court of Appeals also held that the Commission had no power to make findings as to past rates in aid of state regulation. But it concluded that those findings were proper as a step in the process of fixing future rates. Viewed in that light, however, the findings were deemed to be invalidated by the same errors which vitiated the findings on which the rate order was based.

Order Reducing Rates. Congress has provided in s 4(a) of the Natural Gas Act that all natural gas rates subject to the jurisdiction of the Commission 'shall be just and reasonable, and any such rate or charge that is not just and reasonable is hereby declared to be unlawful.' Sec. 5(a) gives the Commission the power, after hearing, to determine the 'just and reasonable rate' to be thereafter observed and to fix the rate by order. Sec. 5(a) also empowers the Commission to order a 'decrease where existing rates are unjust * * * unlawful, or are not the lowest reasonable rates.' And Congress has provided in s 19(b) that on review of these rate orders the 'finding of the Commission as to the facts, if supported by substantial evidence, shall be conclusive.' Congress, however, has provided no formula by which the 'just and reasonable' rate is to be determined. It has not filled in the ***601** details of the general prescription FN8 of s 4(a) and s 5(a). It has not expressed in a specific rule the fixed principle of 'just and reasonable'.

FN8. Sec. 6 of the Act comes the closest to supplying any definite criteria for rate making. It provides in subsection (a) that, 'The Commission may investigate the ascertain the actual legitimate cost of the property of every natural-gas company, the depreciation therein, and, when found necessary for rate-making purposes, other facts which bear on the determination of such cost or depreciation and the fair value of such property.' Subsection (b) provides that every natural-gas company on request shall file with the Commission a statement of the 'original cost' of its property and shall keep the Commission informed regarding the 'cost' of all additions, etc.

[1] [2] When we sustained the constitutionality of the Natural Gas Act in the Natural Gas Pipeline Co. case, we stated that the 'authority of Congress to regulate the prices of commodities in interstate commerce is at least as great under the Fifth Amendment as is that of the states under the Fourteenth to regulate the prices of commodities in intrastate commerce.' 315 U.S. at page 582, 62 S.Ct. at page 741, 86 L.Ed. 1037. Rate-making is indeed but one species of price-fixing. Munn v. Illinois, 94 U.S. 113, 134, 24 L.Ed. 77. The fixing of prices, like other applications of the police power, may reduce the value of the property which is being regulated. But the fact that the value is reduced does not mean that the regulation is invalid. Block v. Hirsh, 256 U.S. 135, 155-157, 41 S.Ct. 458, 459, 460, 65 L.Ed. 865, 16 A.L.R. 165; Nebbia v. New York, 291 U.S. 502, 523-539, 54 S.Ct. 505, 509-517, 78 L.Ed. 940, 89 A.L.R. 1469, and cases cited. It does, however, indicate that 'fair value' is the end product of the process of rate-making not the starting point as the Circuit Court of Appeals held. The heart of the matter is that rates cannot be made to depend upon 'fair value' when the value of the going enterprise depends on earnings under whatever rates may be anticipated. FN9

FN9 We recently stated that the meaning of the word 'value' is to be gathered 'from the purpose for which a valuation is being made. Thus the question in a valuation for rate making is how much a utility will be allowed to earn. The basic

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question in a valuation for reorganization purposes is how much the enterprise in all probability can earn.' Institutional Investors v. Chicago, M., St. P. & P.R. Co., 318 U.S. 523, 540, 63 S.Ct. 727, 738.

***602** [3] [4] [5] [6] [7] We held in Federal Power Commission v. Natural Gas Pipeline Co., supra, that the Commission was not bound to the use of any single formula or combination of formulae in determining rates. Its rate-making function, moreover, involves the making of 'pragmatic adjustments.' Id., 315 U.S. at page 586, 62 S.Ct. at page 743, 86 L.Ed. 1037. And when the Commission's order is challenged in the courts, the question is whether that order 'viewed in its entirety' meets the requirements of the Act. Id., 315 U.S. at page 586, 62 S.Ct. at page 743, 86 L.Ed. 1037. Under the statutory standard of 'just and reasonable' it is the result reached not the method employed which is controlling. Cf. ****288**Los Angeles Gas & Electric Corp. v. Railroad Commission, 289 U.S. 287, 304, 305, 314, 53 S.Ct. 637, 643, 644, 647, 77 L.Ed. 1180; West Ohio Gas Co. v. Public Utilities Commission (No. 1), 294 U.S. 63, 70, 55 S.Ct. 316, 320, 79 L.Ed. 761; West v. Chesapeake & Potomac Tel. Co., 295 U.S. 662, 692, 693, 55 S.Ct. 894, 906, 907, 79 L.Ed. 1640 (dissenting opinion). It is not theory but the impact of the rate order which counts. If the total effect of the rate order cannot be said to be unjust and unreasonable, judicial inquiry under the Act is at an end. The fact that the method employed to reach that result may contain infirmities is not then important. Moreover, the Commission's order does not become suspect by reason of the fact that it is challenged. It is the product of expert judgment which carries a presumption of validity. And he who would upset the rate order under the Act carries the heavy burden of making a convincing showing that it is invalid because it is unjust and unreasonable in its consequences. Cf. Railroad Commission v. Cumberland Tel. & T. Co., 212 U.S. 414, 29 S.Ct. 357, 53 L.Ed. 577; Lindheimer v. Illinois Bell Tel. Co., supra, 292 U.S. at pages 164, 169, 54 S.Ct. at pages 663, 665, 78 L.Ed. 1182; Railroad Commission v. Pacific Gas & E. Co., 302 U.S. 388, 401, 58 S.Ct. 334, 341, 82 L.Ed. 319.

***603** [8] [9] The rate-making process under the Act, i.e., the fixing of 'just and reasonable' rates, involves a balancing of the investor and the consumer interests. Thus we stated in the Natural Gas Pipeline Co. case that 'regulation does not insure that the business shall produce net revenues.' 315 U.S. at page 590, 62 S.Ct. at page 745, 86 L.Ed. 1037. But such considerations aside, the investor interest has a legitimate concern with the financial integrity of the company whose rates are being regulated. From the investor or company point of view it is important that there be enough revenue not only for operating expenses but also for the capital costs of the business. These include service on the debt and dividends on the stock. Cf. Chicago & Grand Trunk R. Co. v. Wellman, 143 U.S. 339, 345, 346, 12 S.Ct. 400, 402, 36 L.Ed. 176. By that standard the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks. That return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital. See State of Missouri ex rel. South-western Bell Tel. Co. v. Public Service Commission, 262 U.S. 276, 291, 43 S.Ct. 544, 547, 67 L.Ed. 981, 31 A.L.R. 807 (Mr. Justice Brandeis concurring). The conditions under which more or less might be allowed are not important here. Nor is it important to this case to determine the various permissible ways in which any rate base on which the return is computed might be arrived at. For we are of the view that the end result in this case cannot be condemned under the Act as unjust and unreasonable from the investor or company viewpoint.

We have already noted that Hope is a wholly owned subsidiary of the Standard Oil Co. (N.J.). It has no securities outstanding except stock. All of that stock has been owned by Standard since 1908. The par amount presently outstanding is approximately $28,000,000 as compared with the rate base of $33,712,526 established by ***604** the Commission. Of the total outstanding stock $11,000,000 was issued in stock dividends. The balance, or about $17,000,000, was issued for cash or other assets. During the four decades of its operations Hope has paid over $97,000,000 in cash dividends. It had, moreover, accumulated by 1940 an earned surplus of about $8,000,000. It had thus earned the total investment in the company nearly seven times. Down to 1940 it earned over 20% per year on the average annual amount of its capital stock issued for cash or other assets. On an average invested capital of some $23,000,000 Hope's average earnings have been about 12% a year. And during this period it had accumulated in addition reserves for depletion and depreciation of about $46,000,000. Furthermore, during 1939, 1940 and 1941, Hope paid dividends of 10% on its stock. And in the year 1942, during about half of which the lower rates were in effect, it paid dividends of 7 1/2%. From 1939-1942 its earned surplus increased from $5,250,000 to about $13,700,000, i.e., to almost half the par value of its outstanding stock.

As we have noted, the Commission fixed a rate of return which permits Hope to earn $2,191,314 annually. In determining that amount it stressed the importance of maintaining the financial integrity of the ****289** company. It considered the financial history of Hope and a vast

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array of data bearing on the natural gas industry, related businesses, and general economic conditions. It noted that the yields on better issues of bonds of natural gas companies sold in the last few years were 'close to 3 per cent', 44 P.U.R.,N.S., at page 33. It stated that the company was a 'seasoned enterprise whose risks have been minimized' by adequate provisions for depletion and depreciation (past and present) with 'concurrent high profits', by 'protected established markets, through affiliated distribution companies, in populous and industralized areas', and by a supply of gas locally to meet all requirements,***605** 'except on certain peak days in the winter, which it is feasible to supplement in the future with gas from other sources.' Id., 44 P.U.R.,N.S., at page 33. The Commission concluded, 'The company's efficient management, established markets, financial record, affiliations, and its prospective business place it in a strong position to attract capital upon favorable terms when it is required.' Id., 44 P.U.R.,N.S., at page 33.

[10] [11] [12] In view of these various considerations we cannot say that an annual return of $2,191,314 is not 'just and reasonable' within the meaning of the Act. Rates which enable the company to operate successfully, to maintain its financial integrity, to attract capital, and to compensate its investors for the risks assumed certainly cannot be condemned as invalid, even though they might produce only a meager return on the so-called 'fair value' rate base. In that connection it will be recalled that Hope contended for a rate base of $66,000,000 computed on reproduction cost new. The Commission points out that if that rate base were accepted, Hope's average rate of return for the four-year period from 1937-1940 would amount to 3.27%. During that period Hope earned an annual average return of about 9% on the average investment. It asked for no rate increases. Its properties were well maintained and operated. As the Commission says such a modest rate of 3.27% suggests an 'inflation of the base on which the rate has been computed.' Dayton Power & Light Co. v. Public Utilities Commission, 292 U.S. 290, 312, 54 S.Ct. 647, 657, 78 L.Ed. 1267. Cf. Lindheimer v. Illinois Bell Tel. Co., supra, 292 U.S. at page 164, 54 S.Ct. at page 663, 78 L.Ed. 1182. The incongruity between the actual operations and the return computed on the basis of reproduction cost suggests that the Commission was wholly justified in rejecting the latter as the measure of the rate base.

In view of this disposition of the controversy we need not stop to inquire whether the failure of the Commission to add the $17,000,000 of well-drilling and other costs to ***606** the rate base was consistent with the prudent investment theory as developed and applied in particular cases.

[13] [14] [15] Only a word need be added respecting depletion and depreciation. We held in the Natural Gas Pipeline Co. case that there was no constitutional requirement 'that the owner who embarks in a wasting-asset business of limited life shall receive at the end more than he has put into it.' 315 U.S. at page 593, 62 S.C. at page 746, 86 L.Ed. 1037. The Circuit Court of Appeals did not think that that rule was applicable here because Hope was a utility required to continue its service to the public and not scheduled to end its business on a day certain as was stipulated to be true of the Natural Gas Pipeline Co. But that distinction is quite immaterial. The ultimate exhaustion of the supply is inevitable in the case of all natural gas companies. Moreover, this Court recognized in Lindheimer v. Illinois Bell Tel. Co., supra, the propriety of basing annual depreciation on cost. FN10 By such a procedure the ****290** utility is made whole and the integrity of its investment maintained. FN11 No more is required. FN12 We cannot approve the contrary holding ***607** of United Railways & Electric Co. v. West, 280 U.S. 234, 253, 254, 50 S.Ct. 123, 126, 127, 74 L.Ed. 390. Since there are no constitutional requirements more exacting than the standards of the Act, a rate order which conforms to the latter does not run afoul of the former.

FN10 Chief Justice Hughes said in that case (292 U.S. at pages 168, 169, 54 S.Ct. at page 665, 78 L.Ed. 1182): 'If the predictions of service life were entirely accurate and retirements were made when and as these predictions were precisely fulfilled, the depreciation reserve would represent the consumption of capital, on a cost basis, according to the method which spreads that loss over the respective service periods. But if the amounts charged to operating expenses and credited to the account for depreciation reserve are excessive, to that extent subscribers for the telephone service are required to provide, in effect, capital contributions, not to make good losses incurred by the utility in the service rendered and thus to keep its investment unimpaired, but to secure additional plant and equipment upon which the utility expects a return.'

FN11 See Mr. Justice Brandeis (dissenting) in United Railways & Electric Co. v. West, 280 U.S. 234, 259-288, 50 S.Ct. 123, 128-138, 74 L.Ed. 390, for an extended analysis of the problem.

FN12 It should be noted that the Act provides no specific rule governing depletion and depreciation. Sec. 9(a) merely states that the

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> Commission 'may from time to time ascertain and determine, and by order fix, the proper and adequate rates of depreciation and amortization of the several classes of property of each natural-gas company used or useful in the production, transportation, or sale of natural gas.'

The Position of West Virginia. The State of West Virginia, as well as its Public Service Commission, intervened in the proceedings before the Commission and participated in the hearings before it. They have also filed a brief amicus curiae here and have participated in the argument at the bar. Their contention is that the result achieved by the rate order 'brings consequences which are unjust to West Virginia and its citizens' and which 'unfairly depress the value of gas, gas lands and gas leaseholds, unduly restrict development of their natural resources, and arbitrarily transfer their properties to the residents of other states without just compensation therefor.'

West Virginia points out that the Hope Natural Gas Co. holds a large number of leases on both producing and unoperated properties. The owner or grantor receives from the operator or grantee delay rentals as compensation for postponed drilling. When a producing well is successfully brought in, the gas lease customarily continues indefinitely for the life of the field. In that case the operator pays a stipulated gas-well rental or in some cases a gas royalty equivalent to one-eighth of the gas marketed. FN13 Both the owner and operator have valuable property interests in the gas which are separately taxable under West Virginia law. The contention is that the reversionary interests in the leaseholds should be represented in the rate proceedings since it is their gas which is being sold in interstate ***608** commerce. It is argued, moreover, that the owners of the reversionary interests should have the benefit of the 'discovery value' of the gas leaseholds, not the interstate consumers. Furthermore, West Virginia contends that the Commission in fixing a rate for natural gas produced in that State should consider the effect of the rate order on the economy of West Virginia. It is pointed out that gas is a wasting asset with a rapidly diminishing supply. As a result West Virginia's gas deposits are becoming increasingly valuable. Nevertheless the rate fixed by the Commission reduces that value. And that reduction, it is said, has severe repercussions on the economy of the State. It is argued in the first place that as a result of this rate reduction Hope's West Virginia property taxes may be decreased in view of the relevance which earnings have under West Virginia law in the assessment of property for tax purposes. FN14 Secondly, it is pointed out that West Virginia has a production tax FN15 on the 'value' of the gas exported from the State. And we are told that for purposes of that tax 'value' becomes under West Virginia law 'practically the substantial equivalent of market value.' Thus West Virginia argues that undervaluation of Hope's gas leaseholds will cost the State many thousands of dollars in taxes. The effect, it is urged, is to impair West Virginia's tax structure for the benefit of Ohio and Pennsylvania consumers. West Virginia emphasizes, moreover, its deep interest in the conservation of its natural resources including its natural gas. It says that a reduction of the value of these leasehold values will jeopardize these conservation policies in three respects: (1) ****291** exploratory development of new fields will be discouraged; (2) abandonment of lowyield high-cost marginal wells will be hastened; and (3) secondary recovery of oil will be hampered. ***609** Furthermore, West Virginia contends that the reduced valuation will harm one of the great industries of the State and that harm to that industry must inevitably affect the welfare of the citizens of the State. It is also pointed out that West Virginia has a large interest in coal and oil as well as in gas and that these forms of fuel are competitive. When the price of gas is materially cheapened, consumers turn to that fuel in preference to the others. As a result this lowering of the price of natural gas will have the effect of depreciating the price of West Virginia coal and oil.

> FN13 See Simonton, The Nature of the Interest of the Grantee Under an Oil and Gas Lease (1918), 25 W.Va.L.Quar. 295.
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> FN14 West Penn Power Co. v. Board of Review, 112 W.Va. 442, 164 S.E. 862.
>
> FN15 W.Va.Rev.Code of 1943, ch. 11. Art. 13, ss 2a, 3a.

West Virginia insists that in neglecting this aspect of the problem the Commission failed to perform the function which Congress entrusted to it and that the case should be remanded to the Commission for a modification of its order. FN16

> FN16 West Virginia suggests as a possible solution (1) that a 'going concern value' of the company's tangible assets be included in the rate base and (2) that the fair market value of gas delivered to customers be added to the outlay for operating expenses and taxes.

We have considered these contentions at length in view of the earnestness with which they have been urged upon us. We have searched the legislative history of the Natural

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Gas Act for any indication that Congress entrusted to the Commission the various considerations which West Virginia has advanced here. And our conclusion is that Congress did not.

[16] [17] We pointed out in Illinois Natural Gas Co. v. Central Illinois Public Service Co., 314 U.S. 498, 506, 62 S.Ct. 384, 387, 86 L.Ed. 371, that the purpose of the Natural Gas Act was to provide, 'through the exercise of the national power over interstate commerce, an agency for regulating the wholesale distribution to public service companies of natural gas moving interstate, which this Court had declared to be interstate commerce not subject to certain types of state regulation.' As stated in the House Report the 'basic purpose' of this legislation was 'to occupy' the field in which such cases as ***610**State of Missouri v. Kansas Natural Gas Co., 265 U.S. 298, 44 S.Ct. 544, 68 L.Ed. 1027, and Public Utilities Commission v. Attleboro Steam & Electric Co., 273 U.S. 83, 47 S.Ct. 294, 71 L.Ed. 549, had held the States might not act. H.Rep. No. 709, 75th Cong., 1st Sess., p. 2. In accomplishing that purpose the bill was designed to take 'no authority from State commissions' and was 'so drawn as to complement and in no manner usurp State regulatory authority.' Id., p. 2. And the Federal Power Commission was given no authority over the 'production or gathering of natural gas.' s 1(b).

[18] The primary aim of this legislation was to protect consumers against exploitation at the lands of natural gas companies. Due to the hiatus in regulation which resulted from the Kansas Natural Gas Co. case and related decisions state commissions found it difficult or impossible to discover what it cost interstate pipe-line companies to deliver gas within the consuming states; and thus they were thwarted in local regulation. H.Rep., No. 709, supra, p. 3. Moreover, the investigations of the Federal Trade Commission had disclosed that the majority of the pipe-line mileage in the country used to transport natural gas, together with an increasing percentage of the natural gas supply for pipe-line transportation, had been acquired by a handful of holding companies. [FN17] State commissions, independent producers, and communities having or seeking the service were growing quite helpless against these combinations. [FN18] These were the types of problems with which those participating in the hearings were pre-occupied. [FN19] Congress addressed itself to those specific evils.

FN17 S.Doc. 92, Pt. 84-A, ch. XII, Final Report, Federal Trade Commission to the Senate pursuant to S.Res.No. 83, 70th Cong., 1st Sess.

FN18 S.Doc. 92, Pt. 84-A, chs. XII, XIII, op. cit., supra, note 17.

FN19 See Hearings on H.R. 11662, Subcommittee of House Committee on Interstate & Foreign Commerce, 74th Cong., 2d Sess.; Hearings on H.R. 4008, House Committee on Interstate & Foreign Commerce, 75th Cong., 1st Sess.

611** The Federal Power Commission was given*292** broad powers of regulation. The fixing of 'just and reasonable' rates (s 4) with the powers attendant thereto [FN20] was the heart of the new regulatory system. Moreover, the Commission was given certain authority by s 7(a), on a finding that the action was necessary or desirable 'in the public interest,' to require natural gas companies to extend or improve their transportation facilities and to sell gas to any authorized local distributor. By s 7(b) it was given control over the abandonment of facilities or of service. And by s 7(c), as originally enacted, no natural gas company could undertake the construction or extension of any facilities for the transportation of natural gas to a market in which natural gas was already being served by another company, or sell any natural gas in such a market, without obtaining a certificate of public convenience and necessity from the Commission. In passing on such applications for certificates of convenience and necessity the Commission was told by s 7(c), as originally enacted, that it was 'the intention of Congress that natural gas shall be sold in interstate commerce for resale for ultimate public consumption for domestic, commercial, industrial, or any other use at the lowest possible reasonable rate consistent with the maintenance of adequate service in the public interest.' The latter provision was deleted from s 7(c) when that subsection was amended by the Act of February 7, 1942, 56 Stat. 83. By that amendment limited grandfather rights were granted companies desiring to extend their facilities and services over the routes or within the area which they were already serving. Moreover, s 7(c) was broadened so as to require certificates***612** of public convenience and necessity not only where the extensions were being made to markets in which natural gas was already being sold by another company but in other situations as well.

FN20 The power to investigate and ascertain the 'actual legitimate cost' of property (s 6), the requirement as to books and records (s 8), control over rates of depreciation (s 9), the requirements for periodic and special reports (s 10), the broad powers of investigation (s 14) are among the chief powers supporting the rate making function.

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[19] These provisions were plainly designed to protect the consumer interests against exploitation at the hands of private natural gas companies. When it comes to cases of abandonment or of extensions of facilities or service, we may assume that, apart from the express exemptions [FN21] contained in s 7, considerations of conservation are material to the issuance of certificates of public convenience and necessity. But the Commission was not asked here for a certificate of public convenience and necessity under s 7 for any proposed construction or extension. It was faced with a determination of the amount which a private operator should be allowed to earn from the sale of natural gas across state lines through an established distribution system. Secs. 4 and 5, not s 7, provide the standards for that determination. We cannot find in the words of the Act or in its history the slightest intimation or suggestion that the exploitation of consumers by private operators through the maintenance of high rates should be allowed to continue provided the producing states obtain indirect benefits from it. That apparently was the Commission's view of the matter, for the same arguments advanced here were presented to the Commission and not adopted by it.

FN21 Apart from the grandfather clause contained in s 7(c), there is the provision of s 7(f) that a natural gas company may enlarge or extend its facilities with the 'service area' determined by the Commission without any further authorization.

We do not mean to suggest that Congress was unmindful of the interests of the producing states in their natural gas supplies when it drafted the Natural Gas Act. As we have said, the Act does not intrude on the domain traditionally reserved for control by state commissions; and the Federal Power Commission was given no authority over***613** 'the production or gathering of natural gas.' s 1(b). In addition, Congress recognized the legitimate interests of the States in the conservation of natural gas. By s 11 Congress instructed the Commission to make reports on compacts between two or more States dealing with the conservation, production and transportation of natural gas. [FN22] The Commission was also ****293** directed to recommend further legislation appropriate or necessary to carry out any proposed compact and 'to aid in the conservation of natural-gas resources within the United States and in the orderly, equitable, and economic production, transportation, and distribution of natural gas.' s 11(a). Thus Congress was quite aware of the interests of the producing states in their natural gas supplies. [FN23] But it left the protection of ***614** those interests to measures other than the maintenance of high rates to private companies. If the Commission is to be compelled to let the stockholders of natural gas companies have a feast so that the producing states may receive crumbs from that table, the present Act must be redesigned. Such a project raises questions of policy which go beyond our province.

FN22 See P.L. 117, approved July 7, 1943, 57 Stat. 383 containing an 'Interstate Compact to Conserve Oil and Gas' between Oklahoma, Texas, New Mexico, Illinois, Colorado, and Kansas.

FN23 As we have pointed out, s 7(c) was amended by the Act of February 7, 1942, 56 Stat. 83, so as to require certificates of public convenience and necessity not only where the extensions were being made to markets in which natural gas was already being sold by another company but to other situations as well. Considerations of conservation entered into the proposal to give the Act that broader scope. H.Rep.No. 1290, 77th Cong. 1st Sess., pp. 2, 3. And see Annual Report, Federal Power Commission (1940) pp. 79, 80; Baum, The Federal Power Commission and State Utility Regulation (1942), p. 261.
The bill amending s 7(c) originally contained a subsection (h) reading as follows: 'Nothing contained in this section shall be construed to affect the authority of a State within which natural gas is produced to authorize or require the construction or extension of facilities for the transportation and sale of such gas within such State: Provided, however, That the Commission, after a hearing upon complaint or upon its own motion, may by order forbid any intrastate construction or extension by any natural-gas company which it shall find will prevent such company from rendering adequate service to its customers in interstate or foreign commerce in territory already being served.' See Hearings on H.R. 5249, House Committee on Interstate & Foreign Commerce, 77th Cong., 1st Sess., pp. 7, 11, 21, 29, 32, 33. In explanation of its deletion the House Committee Report stated, pp. 4, 5: 'The increasingly important problems raised by the desire of several States to regulate the use of the natural gas produced therein in the interest of consumers within such States, as against the Federal power to regulate interstate commerce in the interest of both interstate and intrastate consumers, are deemed by the committee to warrant further intensive study and probably a more retailed and comprehensive plan for the handling thereof than that which would have been provided by the stricken subsection.'

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[20] It is hardly necessary to add that a limitation on the net earnings of a natural gas company from its interstate business is not a limitation on the power of the producing state either to safeguard its tax revenues from that industry [FN24] or to protect the interests of those who sell their gas to the interstate operator. [FN25] The return which ****294** the Commission***615** allowed was the net return after all such charges.

FN24 We have noted that in the annual operating expenses of some $16,000.000 the Commission included West Virginia and federal taxes. And in the net increase of $421,160 over 1940 operating expenses allowed by the Commission was some $80,000 for increased West Virginia property taxes. The adequacy of these amounts has not been challenged here.

FN25 The Commission included in the aggregate annual operating expenses which it allowed some $8,500,000 for gas purchased. It also allowed about $1,400,000 for natural gas production and about $600,000 for exploration and development.

It is suggested, however, that the Commission in ascertaining the cost of Hope's natural gas production plant proceeded contrary to s 1(b) which provides that the Act shall not apply to 'the production or gathering of natural gas'. But such valuation, like the provisions for operating expenses, is essential to the rate-making function as customarily performed in this country. Cf. Smith, The Control of Power Rates in the United States and England (1932), 159 The Annals 101. Indeed s 14(b) of the Act gives the Commission the power to 'determine the propriety and reasonableness of the inclusion in operating expenses, capital, or surplus of all delay rentals or other forms of rental or compensation for unoperated lands and leases.'

It is suggested that the Commission has failed to perform its duty under the Act in that it has not allowed a return for gas production that will be enough to induce private enterprise to perform completely and efficiently its functions for the public. The Commission, however, was not oblivious of those matters. It considered them. It allowed, for example, delay rentals and exploration and development costs in operating expenses. [FN26] No serious attempt has been made here to show that they are inadequate. We certainly cannot say that they are, unless we are to substitute our opinions for the expert judgment of the administrators to whom Congress entrusted the decision. Moreover, if in light of experience they turn out to be inadequate for development of new sources of supply, the doors of the Commission are open for increased allowances. This is not an order for all time. The Act contains machinery for obtaining rate adjustments. s 4.

FN26 See note 25, supra.

[21] [22] But it is said that the Commission placed too low a rate on gas for industrial purposes as compared with gas for domestic purposes and that industrial uses should be discouraged. It should be noted in the first place that the rates which the Commission has fixed are Hope's interstate wholesale rates to distributors not interstate rates to industrial users [FN27] and domestic consumers. We hardly ***616** can assume, in view of the history of the Act and its provisions, that the resales intrastate by the customer companies which distribute the gas to ultimate consumers in Ohio and Pennsylvania are subject to the rate-making powers of the Commission. [FN28] But in any event those rates are not in issue here. Moreover, we fail to find in the power to fix 'just and reasonable' rates the power to fix rates which will disallow or discourage resales for industrial use. The Committee Report stated that the Act provided 'for regulation along recognized and more or less standardized lines' and that there was 'nothing novel in its provisions'. H.Rep.No.709, supra, p. 3. Yet if we are now to tell the Commission to fix the rates so as to discourage particular uses, we would indeed be injecting into a rate case a 'novel' doctrine which has no express statutory sanction. The same would be true if we were to hold that the wasting-asset nature of the industry required the maintenance of the level of rates so that natural gas companies could make a greater profit on each unit of gas sold. Such theories of rate-making for this industry may or may not be desirable. The difficulty is that s 4(a) and s 5(a) contain only the conventional standards of rate-making for natural gas companies. [FN29] The ***617** Act of February 7, 1942, by broadening s 7 gave the Commission some additional authority to deal with the conservation aspects of the problem. [FN30] But s 4(a) and s 5(a) were not changed. If the standard****295** of 'just and reasonable' is to sanction the maintenance of high rates by a natural gas company because they restrict the use of natural gas for certain purposes, the Act must be further amended.

FN27 The Commission has expressed doubts over its power to fix rates on 'direct sales to industries' from interstate pipelines as distinguished from 'sales for resale to the industrial customers of distributing companies.' Annual Report, Federal Power Commission (1940), p. 11.

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FN28. Sec. 1(b) of the Act provides: 'The provisions of this Act shall apply to the transportation of natural gas in interstate commerce, to the sale in interstate commerce of natural gas for resale for ultimate public consumption for domestic, commercial, industrial, or any other use, and to natural-gas companies engaged in such transportation or sale, but shall not apply to any other transportation or sale of natural gas or to the local distribution of natural gas or to the facilities used for such distribution or to the production or gathering of natural gas.' And see s 2(6), defining a 'natural-gas company', and H.Rep.No. 709, supra, pp. 2, 3.

FN29 The wasting-asset characteristic of the industry was recognized prior to the Act as requiring the inclusion of a depletion allowance among operating expenses. See Columbus Gas & Fuel Co. v. Public Utilities Commission, 292 U.S. 398, 404, 405, 54 S.Ct. 763, 766, 767, 78 L.Ed. 1327, 91 A.L.R. 1403. But no such theory of rate-making for natural gas companies as is now suggested emerged from the cases arising during the earlier period of regulation.

FN30 The Commission has been alert to the problems of conservation in its administration of the Act. It has indeed suggested that it might be wise to restrict the use of natural gas 'by functions rather than by areas.' Annual Report (1940) p. 79.

The Commission stated in that connection that natural gas was particularly adapted to certain industrial uses. But it added that the general use of such gas 'under boilers for the production of steam' is 'under most circumstances of very questionable social economy.' Ibid.

[23] [24] It is finally suggested that the rates charged by Hope are discriminatory as against domestic users and in favor of industrial users. That charge is apparently based on s 4(b) of the Act which forbids natural gas companies from maintaining 'any unreasonable difference in rates, charges, service, facilities, or in any other respect, either as between localities or as between classes of service.' The power of the Commission to eliminate any such unreasonable differences or discriminations is plain. s 5(a). The Commission, however, made no findings under s 4(b). Its failure in that regard was not challenged in the petition to review. And it has not been raised or argued here by any party. Hence the problem of discrimination has no proper place in the present decision. It will be time enough to pass on that issue when it is presented to us. Congress has entrusted the administration of the Act to the Commission not to the courts. Apart from the requirements of judicial review it is not ***618** for us to advise the Commission how to discharge its functions.

Findings as to the Lawfulness of Past Rates. As we have noted, the Commission made certain findings as to the lawfulness of past rates which Hope had charged its interstate customers. Those findings were made on the complaint of the City of Cleveland and in aid of state regulation. It is conceded that under the Act the Commission has no power to make reparation orders. And its power to fix rates admittedly is limited to those 'to be thereafter observed and in force.' s 5(a). But the Commission maintains that it has the power to make findings as to the lawfulness of past rates even though it has no power to fix those rates. FN31 However that may be, we do not think that these findings were reviewable under s 19(b) of the Act. That section gives any party 'aggrieved by an order' of the Commission a review 'of such order' in the circuit court of appeals for the circuit where the natural gas company is located or has its principal place of business or in the United States Court of Appeals for the District of Columbia. We do not think that the findings in question fall within that category.

FN31 The argument is that s 4(a) makes 'unlawful' the charging of any rate that is not just and reasonable. And s 14(a) gives the Commission power to investigate any matter 'which it may find necessary or proper in order to determine whether any person has violated' any provision of the Act. Moreover, s 5(b) gives the Commission power to investigate and determine the cost of production or transportation of natural gas in cases where it has 'no authority to establish a rate governing the transportation or sale of such natural gas.' And s 17(c) directs the Commission to 'make available to the several State commissions such information and reports as may be of assistance in State regulation of natural-gas companies.' For a discussion of these points by the Commission see 44 P.U.R.,N.S., at pages 34, 35.

[25] [26] The Court recently summarized the various types of administrative action or determination reviewable as orders under the Urgent Deficiencies Act of October 22, ***619** 1913, 28 U.S.C. ss 45, 47a, 28 U.S.C.A. ss 45, 47a, and kindred statutory provisions. Rochester Tel. Corp. v. United States, 307 U.S. 125, 59 S.Ct. 754, 83 L.Ed. 1147. It was there pointed out that where 'the order sought to be reviewed does not of itself adversely affect complainant but only affects his rights adversely on the contingency of future administrative action', it is not

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reviewable. Id., 307 U.S. at page 130, 59 S.Ct. at page 757, 83 L.Ed. 1147. The Court said, 'In view of traditional conceptions of federal judicial power, resort to the courts in these situations is either premature or wholly beyond their province.' ****296**Id., 307 U.S. at page 130, 59 S.Ct. at page 757, 83 L.Ed. 1147. And see United States v. Los Angeles s.l.r. c/o., 273 U.S. 299, 309, 310, 47 S.Ct. 413, 414, 415, 71 L.Ed. 651; Shannahan v. United States, 303 U.S. 596, 58 S.Ct. 732, 82 L.Ed. 1039. These considerations are apposite here. The Commission has no authority to enforce these findings. They are 'the exercise solely of the function of investigation.' United States v. Los Angeles & S.L.R. Co., supra, 273 U.S. at page 310, 47 S.Ct. at page 414, 71 L.Ed. 651. They are only a preliminary, interim step towards possible future action-action not by the Commission but by wholly independent agencies. The outcome of those proceedings may turn on factors other than these findings. These findings may never result in the respondent feeling the pinch of administrative action.

Reversed.

Mr. Justice ROBERTS took no part in the consideration or decision of this case.

Opinion of Mr. Justice BLACK and Mr. Justice MURPHY.

We agree with the Court's opinion and would add nothing to what has been said but for what is patently a wholly gratuitous assertion as to Constitutional law in the dissent of Mr. Justice FRANKFURTER. We refer to the statement that 'Congressional acquiescence to date in the doctrine of Chicago, etc., R. Co. v. Minnesota, supra (134 U.S. 418, 10 S.Ct. 462, 702, 33 L.Ed. 970), may fairly be claimed.' That was the case in which a majority of this Court was finally induced to expand the meaning ***620** of 'due process' so as to give courts power to block efforts of the state and national governments to regulate economic affairs. The present case does not afford a proper occasion to discuss the soundness of that doctrine because, as stated in Mr. Justice FRANKFURTER'S dissent, 'That issue is not here in controversy.' The salutary practice whereby courts do not discuss issues in the abstract applies with peculiar force to Constitutional questions. Since, however, the dissent adverts to a highly controversial due process doctrine and implies its acceptance by Congress, we feel compelled to say that we do not understand that Congress voluntarily has acquiesced in a Constitutional principle of government that courts, rather than legislative bodies, possess final authority over regulation of economic affairs. Even this Court has not always fully embraced that principle, and we wish to repeat that we have never acquiesced in it, and do not now. See Federal Power Commission v. Natural Gas Pipeline Co., 315 U.S. 575, 599-601, 62 S.Ct. 736, 749, 750, 86 L.Ed. 1037.

Mr. Justice REED, dissenting.

This case involves the problem of rate making under the Natural Gas Act. Added importance arises from the obvious fact that the principles stated are generally applicable to all federal agencies which are entrusted with the determination of rates for utilities. Because my views differ somewhat from those of my brethren, it may be of some value to set them out in a summary form.

The Congress may fix utility rates in situations subject to federal control without regard to any standard except the constitutional standards of due process and for taking private property for public use without just compensation. Wilson v. New, 243 U.S. 332, 350, 37 S.Ct. 298, 302, 61 L.Ed. 755, L.R.A.1917E, 938, Ann.Cas.1918A, 1024. A Commission, however, does not have this freedom of action. Its powers are limited not only by the constitutional standards but also by the standards of the delegation. Here the standard added by the Natural Gas Act is that the rate be 'just ***621** and reasonable.' [FN1] Section 6 [FN2] ****297** throws additional light on the meaning of these words.

FN1 Natural Gas Act, s 4(a), 52 Stat. 821, 822, 15 U.S.C. s 717c(a), 15 U.S.C.A. s 717c(a).

FN2 52 Stat. 821, 824, 15 U.S.C. s 717e, 15 U.S.C.A. s 717e:

'(a) The Commission may investigate and ascertain the actual legitimate cost of the property of every natural-gas company, the depreciation therein, and, when found necessary for rate-making purposes, other facts which bear on the determination of such cost or depreciation and the fair value of such property.

'(b) Every natural-gas company upon request shall file with the Commission an inventory of all or any part of its property and a statement of the original cost thereof, and shall keep the Commission informed regarding the cost of all additions, betterments, extensions, and new construction.'

When the phrase was used by Congress to describe allowable rates, it had relation to something ascertainable. The rates were not left to the whim of the Commission. The rates fixed would produce an annual return and that annual return was to be compared with a theoretical just and reasonable return, all risks considered, on the fair value of the property used and useful in the public service at the time of the determination.

Such an abstract test is not precise. The agency charged

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with its determination has a wide range before it could properly be said by a court that the agency had disregarded statutory standards or had confiscated the property of the utility for public use. Cf. Chicago, M. & St. P.R. Co. v. Minnesota, 134 U.S. 418, 461-466, 10 S.Ct. 462, 702, 703-705, 33 L.Ed. 970, dissent. This is as Congress intends. Rates are left to an experienced agency particularly competent by training to appraise the amount required.

The decision as to a reasonable return had not been a source of great difficulty, for borrowers and lenders reached such agreements daily in a multitude of situations; and although the determination of fair value had been troublesome, its essentials had been worked out in fairness to investor and consumer by the time of the enactment***622** of this Act. Cf. Los Angeles G. & E. Corp. v. Railroad Comm., 289 U.S. 287, 304 et seq., 53 S.Ct. 637, 643 et seq., 77 L.Ed. 1180. The results were well known to Congress and had that body desired to depart from the traditional concepts of fair value and earnings, it would have stated its intention plainly. Helvering v. Griffiths, 318 U.S. 371, 63 S.Ct. 636.

It was already clear that when rates are in dispute, 'earnings produced by rates do not afford a standard for decision.' 289 U.S. at page 305, 53 S.Ct. at page 644, 77 L.Ed. 1180. Historical cost, prudent investment and reproduction cost [FN3] were all relevant factors in determining fair value. Indeed, disregarding the pioneer investor's risk, if prudent investment and reproduction cost were not distorted by changes in price levels or technology, each of them would produce the same result. The realization from the risk of an investment in a speculative field, such as natural gas utilities, should be reflected in the present fair value. [FN4] The amount of evidence to be admitted on any point was of course in the agency's reasonable discretion, and it was free to give its own weight to these or other factors and to determine from all the evidence its own judgment as to the necessary rates.

> FN3 'Reproduction cost' has been variously defined, but for rate making purposes the most useful sense seems to be, the minimum amount necessary to create at the time of the inquiry a modern plant capable of rendering equivalent service. See I Bonbright, Valuation of Property (1937) 152. Reproduction cost as the cost of building a replica of an obsolescent plant is not of real significance.

'Prudent investment' is not defined by the Court. It may mean the sum originally put in the enterprise, either with or without additional amounts from excess earnings reinvested in the business.

> FN4 It is of no more than bookkeeping significance whether the Commission allows a rate of return commensurate with the risk of the original investment or the lower rate based on current risk and a capitalization reflecting the established earning power of a successful company and the probable cost of duplicating its services. Cf. American T. & T. Co. v. United States, 299 U.S. 232, 57 S.Ct. 170, 81 L.Ed. 142. But the latter is the traditional method.

***623** I agree with the Court in not imposing a rule of prudent investment alone in determining the rate base. This leaves the Commission free, as I understand it, to use any available evidence for its finding of fair value, including both prudent investment and the cost of installing at the present time an efficient system for furnishing the needed utility service.

My disagreement with the Court arises primarily from its view that it makes no ****298** difference how the Commission reached the rate fixed so long as the result is fair and reasonable. For me the statutory command to the Commission is more explicit. Entirely aside from the constitutional problem of whether the Congress could validly delegate its rate making power to the Commission, in toto and without standards, it did legislate in the light of the relation of fair and reasonable to fair value and reasonable return. The Commission must therefore make its findings in observance of that relationship.

The Federal Power Commission did not, as I construe their action, disregard its statutory duty. They heard the evidence relating to historical and reproduction cost and to the reasonable rate of return and they appraised its weight. The evidence of reproduction cost was rejected as unpersuasive, but from the other evidence they found a rate base, which is to me a determination of fair value. On that base the earnings allowed seem fair and reasonable. So far as the Commission went in appraising the property employed in the service, I find nothing in the result which indicates confiscation, unfairness or unreasonableness. Good administration of rate making agencies under this method would avoid undue delay and render revaluations unnecessary except after violent fluctuations of price levels. Rate making under this method has been subjected to criticism. But until Congress changes the standards for the agencies, these rate making bodies should continue the conventional theory of rate ***624** making. It will probably be simpler to improve present methods than to devise new ones.

But a major error, I think was committed in the disregard

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by the Commission of the investment in exploratory operations and other recognized capital costs. These were not considered by the Commission because they were charged to operating expenses by the company at a time when it was unregulated. Congress did not direct the Commission in rate making to deduct from the rate base capital investment which had been recovered during the unregulated period through excess earnings. In my view this part of the investment should no more have been disregarded in the rate base than any other capital investment which previously had been recovered and paid out in dividends or placed to surplus. Even if prudent investment throughout the life of the property is accepted as the formula for figuring the rate base, it seems to me illogical to throw out the admittedly prudent cost of part of the property because the earnings in the unregulated period had been sufficient to return the prudent cost to the investors over and above a reasonable return. What would the answer be under the theory of the Commission and the Court, if the only prudent investment in this utility had been the seventeen million capital charges which are now disallowed?

For the reasons heretofore stated, I should affirm the action of the Circuit Court of Appeals in returning the proceeding to the Commission for further consideration and should direct the Commission to accept the disallowed capital investment in determining the fair value for rate making purposes.

Mr. Justice FRANKFURTER, dissenting.
My brother JACKSON has analyzed with particularity the economic and social aspects of natural gas as well as ***625** the difficulties which led to the enactment of the Natural Gas Act, especially those arising out of the abortive attempts of States to regulate natural gas utilities. The Natural Gas Act of 1938 should receive application in the light of this analysis, and Mr. Justice JACKSON has, I believe, drawn relevant inferences regarding the duty of the Federal Power Commission in fixing natural gas rates. His exposition seems to me unanswered, and I shall say only a few words to emphasize my basic agreement with him.

For our society the needs that are met by public utilities are as truly public services as the traditional governmental functions of police and justice. They are not less so when these services are rendered by private enterprise under governmental regulation. Who ultimately determines the ways of regulation, is the decisive aspect in the public supervision of privately-owned utilities. Foreshadowed nearly sixty years ago, Railroad Commission Cases (Stone v. Farmers' Loan & Trust Co.), 116 U.S. 307, 331, 6 S.Ct. 334, 344, 388, 1191, 29 L.Ed. 636, it was decided more than fifty ****299** years ago that the final say under the Constitution lies with the judiciary and not the legislature. Chicago, etc., R. Co. v. Minnesota , 134 U.S. 418, 10 S.Ct. 462, 702, 33 L.Ed. 970.

While legal issues touching the proper distribution of governmental powers under the Constitution may always be raised, Congressional acquiescence to date in the doctrine of Chicago, etc., R. Co. v. Minnesota, supra, may fairly be claimed. But in any event that issue is not here in controversy. As pointed out in the opinions of my brethren, Congress has given only limited authority to the Federal Power Commission and made the exercise of that authority subject to judicial review. The Commission is authorized to fix rates chargeable for natural gas. But the rates that it can fix must be 'just and reasonable'. s 5 of the Natural Gas Act, 15 U.S.C. s 717d, 15 U.S.C.A. s 717d. Instead of making the Commission's rate determinations final, Congress***626** specifically provided for court review of such orders. To be sure, 'the finding of the Commission as to the facts, if supported by substantial evidence' was made 'conclusive', s 19 of the Act, 15 U.S.C. s 717r; 15 U.S.C.A. s 717r. But obedience of the requirement of Congress that rates be 'just and reasonable' is not an issue of fact of which the Commission's own determination is conclusive. Otherwise, there would be nothing for a court to review except questions of compliance with the procedural provisions of the Natural Gas Act. Congress might have seen fit so to cast its legislation. But it has not done so. It has committed to the administration of the Federal Power Commission the duty of applying standards of fair dealing and of reasonableness relevant to the purposes expressed by the Natural Gas Act. The requirement that rates must be 'just and reasonable' means just and reasonable in relation to appropriate standards. Otherwise Congress would have directed the Commission to fix such rates as in the judgment of the Commission are just and reasonable; it would not have also provided that such determinations by the Commission are subject to court review.

To what sources then are the Commission and the courts to go for ascertaining the standards relevant to the regulation of natural gas rates? It is at this point that Mr. Justice JACKSON'S analysis seems to me pertinent. There appear to be two alternatives. Either the fixing of natural gas rates must be left to the unguided discretion of the Commission so long as the rates it fixes do not reveal a glaringly had prophecy of the ability of a regulated utility to continue its service in the future. Or the Commission's rate orders must be founded on due consideration of all the elements of the public interest which the production and distribution of natural gas involve just because it is natural gas. These elements are reflected in the Natural Gas Act, if that Act be applied as

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an entirety. See, for ***627** instance, ss 4(a)(b)(c)(d), 6, and 11, 15 U.S.C. ss 717c(a)(b)(c)(d), 717e, and 717j, 15 U.S.C.A. ss 717c(a-d), 717e, 717j. Of course the statute is not concerned with abstract theories of ratemaking. But its very foundation is the 'public interest', and the public interest is a texture of multiple strands. It includes more than contemporary investors and contemporary consumers. The needs to be served are not restricted to immediacy, and social as well as economic costs must be counted.

It will not do to say that it must all be left to the skill of experts. Expertise is a rational process and a rational process implies expressed reasons for judgment. It will little advance the public interest to substitute for the hodge-podge of the rule in Smyth v. Ames, 169 U.S. 466, 18 S.Ct. 418, 42 L.Ed. 819, an encouragement of conscious obscurity or confusion in reaching a result, on the assumption that so long as the result appears harmless its basis is irrelevant. That may be an appropriate attitude when state action is challenged as unconstitutional. Cf. Driscoll v. Edison Light & Power Co., 307 U.S. 104, 59 S.Ct. 715, 83 L.Ed. 1134. But it is not to be assumed that it was the design of Congress to make the accommodation of the conflicting interests exposed in Mr. Justice JACKSON'S opinion the occasion for a blind clash of forces or a partial assessment of relevant factors, either before the Commission or here.

The objection to the Commission's action is not that the rates it granted were too low but that the range of its vision was too narrow. And since the issues before the Commission involved no less than the ****300** total public interest, the proceedings before it should not be judged by narrow conceptions of common law pleading. And so I conclude that the case should be returned to the Commission. In order to enable this Court to discharge its duty of reviewing the Commission's order, the Commission should set forth with explicitness the criteria by which it is guided ***628** in determining that rates are 'just and reasonable', and it should determine the public interest that is in its keeping in the perspective of the considerations set forth by Mr. Justice JACKSON.

By Mr. Justice JACKSON.

Certainly the theory of the court below that ties rate-making to the fair-value-reproduction-cost formula should be overruled as in conflict with Federal Power Commission v. Natural Gas Pipeline Co. [FN1] But the case should, I think, be the occasion for reconsideration of our rate-making doctrine as applied to natural gas and should be returned to the Commission for further consideration in the light thereof.

FN1 315 U.S. 575, 62 S.Ct. 736, 86 L.Ed. 1037.

The Commission appears to have understood the effect of the two opinions in the Pipeline case to be at least authority and perhaps direction to fix natural gas rates by exclusive application of the 'prudent investment' rate base theory. This has no warrant in the opinion of the Chief Justice for the Court, however, which released the Commission from subservience to 'any single formula or combination of formulas' provided its order, 'viewed in its entirety, produces no arbitrary result.' 315 U.S. at page 586, 62 S.Ct. at page 743, 86 L.Ed. 1037. The minority opinion I understood to advocate the 'prudent investment' theory as a sufficient guide in a natural gas case. The view was expressed in the court below that since this opinion was not expressly controverted it must have been approved. [FN2] I disclaim this imputed***629** approval with some particularity, because I attach importance at the very beginning of federal regulation of the natural gas industry to approaching it as the performance of economic functions, not as the performance of legalistic rituals.

FN2 Judge Dobie, dissenting below, pointed out that the majority opinion in the Pipeline case 'contains no express discussion of the Prudent Investment Theory' and that the concurring opinion contained a clear one, and said, 'It is difficult for me to believe that the majority of the Supreme Court, believing otherwise, would leave such a statement unchallenged.' (134 F.2d 287, 312.) The fact that two other Justices had as matter of record in our books long opposed the reproduction cost theory of rate bases and had commented favorably on the prudent investment theory may have influenced that conclusion. See opinion of Mr. Justice Frankfurter in Driscoll v. Edison Light & Power Co., 307 U.S. 104, 122, 59 S.Ct. 715, 724, 83 L.Ed. 1134, and my brief as Solicitor General in that case. It should be noted, however, that these statements were made, not in a natural gas case, but in an electric power case-a very important distinction, as I shall try to make plain.

I.

Solutions of these cases must consider eccentricities of the industry which gives rise to them and also to the Act of Congress by which they are governed.

The heart of this problem is the elusive, exhaustible, and irreplaceable nature of natural gas itself. Given sufficient money, we can produce any desired amount of railroad,

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bus, or steamship transportation, or communications facilities, or capacity for generation of electric energy, or for the manufacture of gas of a kind. In the service of such utilities one customer has little concern with the amount taken by another, one's waste will not deprive another, a volume of service and be created equal to demand, and today's demands will not exhaust or lessen capacity to serve tomorrow. But the wealth of Midas and the wit of man cannot produce or reproduce a natural gas field. We cannot even reproduce the gas, for our manufactured product has only about half the heating value per unit of nature's own. FN3

FN3 Natural gas from the Appalachian field averages about 1050 to 1150 B.T.U. content, while by-product manufactured gas is about 530 to 540. Moody's Manual of Public Utilities (1943) 1350; Youngberg, Natural Gas (1930) 7.

****301** Natural gas in some quantity is produced in twenty-four states. It is consumed in only thirty-five states, and is ***630** available only to about 7,600,000 consumers. FN4 Its availability has been more localized than that of any other utility service because it has depended more on the caprice of nature.

FN4 Sen.Rep. No. 1162, 75th Cong., 1st Sess., 2.

The supply of the Hope Company is drawn from that old and rich and vanishing field that flanks the Appalachian mountains. Its center of production is Pennsylvania and West Virginia, with a fringe of lesser production in New York, Ohio, Kentucky, Tennessee, and the north end of Alabama. Oil was discovered in commercial quantities at a depth of only 69 1/2 feet near Titusville, Pennsylvania, in 1859. Its value then was about $16 per barrel. FN5 The oil branch of the petroleum industry went forward at once, and with unprecedented speed. The area productive of oil and gas was roughed out by the drilling of over 19,000 'wildcat' wells, estimated to have cost over $222,000,000. Of these, over 18,000 or 94.9 per cent, were 'dry holes.' About five per cent, or 990 wells, made discoveries of commercial importance, 767 of them resulting chiefly in oil and 223 in gas only. FN6 Prospecting for many years was a search for oil, and to strike gas was a misfortune. Waste during this period and even later is appalling. Gas was regarded as having no commercial value until about 1882, in which year the total yield was valued only at about $75,000. FN7 Since then, contrary to oil, which has become cheaper gas in this field has pretty steadily advanced in price.

FN5 Arnold and Kemnitzer, Petroleum in the United States and Possessions (1931) 78.

FN6. Id. at 62-63.

FN7. Id. at 61.

While for many years natural gas had been distributed on a small scale for lighting, FN8 its acceptance was slow, ***631** facilities for its utilization were primitive, and not until 1885 did it take on the appearance of a substantial industry. FN9 Soon monopoly of production or markets developed. FN10 To get gas from the mountain country, where it was largely found, to centers of population, where it was in demand, required very large investment. By ownership of such facilities a few corporate systems, each including several companies, controlled access to markets. Their purchases became the dominating factor in giving a market value to gas produced by many small operators. Hope is the market for over 300 such operators. By 1928 natural gas in the Appalachian field commanded an average price of 21.1 cents per m.c.f. at points of production and was bringing 45.7 cents at points of consumption. FN11 The companies which controlled markets, however, did not rely on gas purchases alone. They acquired and held in fee or leasehold great acreage in territory proved by 'wildcat' drilling. These large marketing system companies as well as many small independent owners and operators have carried on the commercial development of proved territory. The development risks appear from the estimate that up to 1928, 312,318 proved area wells had been sunk in the Appalachian field of which 48,962, or 15.7 per cent, failed to produce oil or gas in commercial quantity. FN12

FN8 At Fredonia, New York, in 1821, natural gas was conveyed from a shallow well to some thirty people. The lighthouse at Barcelona Harbor, near what is now Westfield, New York, was at about that time and for many years afterward lighted by gas that issued from a crevice. Report on Utility Corporations by Federal Trade Commission, Sen.Doc. 92, Pt. 84-A, 70th Cong., 1st Sess., 8-9.

FN9 In that year Pennsylvania enacted 'An Act to provide for the incorporation and regulation of natural gas companies.' Penn.Laws 1885, No. 32, 15 P.S. s 1981 et seq.

FN10 See Steptoe and Hoffheimer's Memorandum for Governor Cornwell of West Virginia (1917) 25 West Virginia Law Quarterly 257; see also Report on Utility Corporations by

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Federal Trade Commission, Sen.Doc. No. 92, Pt. 84-A, 70th Cong., 1st Sess.

FN11 Arnold and Kemnitzer, Petroleum in the United States and Possessions (1931) 73.

FN12. Id. at 63.

***632** With the source of supply thus tapped to serve centers of large demand, like Pittsburgh, Buffalo, Cleveland, Youngstown, Akron, and other industrial communities, the distribution of natural gas fast became big business. Its advantages as a ****302** fuel and its price commended it, and the business yielded a handsome return. All was merry and the goose hung high for consumers and gas companies alike until about the time of the first. World War. Almost unnoticed by the consuming public, the whole Appalachian field passed its peak of production and started to decline. Pennsylvania, which to 1928 had given off about 38 per cent of the natural gas from this field, had its peak in 1905; Ohio, which had produced 14 per cent, had its peak in 1915; and West Virginia, greatest producer of all, with 45 per cent to its credit, reached its peak in 1917. FN13

FN13. Id. at 64.

Western New York and Eastern Ohio, on the fringe of the field, had some production but relied heavily on imports from Pennsylvania and West Virginia. Pennsylvania, a producing and exporting state, was a heavy consumer and supplemented her production with imports from West Virginia. West Virginia was a consuming state, but the lion's share of her production was exported. Thus the interest of the states in the North Appalachian supply was in conflict.

Competition among localities to share in the failing supply and the helplessness of state and local authorities in the presence of state lines and corporate complexities is a part of the background of federal intervention in the industry. FN14 West Virginia took the boldest measure. It legislated a priority in its entire production in favor of its own inhabitants. That was frustrated by an injunction***633** from this Court. FN15 Throughout the region clashes in the courts and conflicting decisions evidenced public anxiety and confusion. It was held that the New York Public Service Commission did not have power to classify consumers and restrict their use of gas. FN16 That Commission held that a company could not abandon a part of its territory and still serve the rest. FN17 Some courts admonished the companies to take action to protect consumers. FN18 Several courts held that companies, regardless of failing supply, must continue to take on customers, but such compulsory additions were finally held to be within the Public Service Commission's discretion. FN19 There were attempts to throw up franchises and quit the service, and municipalities resorted to the courts with conflicting results. FN20 Public service commissions of consuming states were handicapped, for they had no control of the supply. FN21

FN14 See Report on Utility Corporations by Federal Trade Commission, Sen.Doc. No. 92, Pt. 84-A, 70th Cong., 1st Sess.

FN15 Commonwealth of Pennsylvania v. West Virginia, 262 U.S. 553, 43 S.Ct. 658, 67 L.Ed. 1117, 32 A.L.R. 300. For conditions there which provoked this legislation, see 25 West Virginia Law Quarterly 257.

FN16 People ex rel. Pavilion Natural Gas Co. v. Public Service Commission, 188 App.Div. 36, 176 N.Y.S. 163.

FN17 Village of Falconer v. Pennsylvania Gas Company, 17 State Department Reports, N.Y., 407.

FN18 See, for example, Public Service Commission v. Iroquois Natural Gas Co., 108 Misc. 696, 178 N.Y.S. 24; Park Abbott Realty Co. v. Iroquois Natural Gas Co., 102 Misc. 266, 168 N.Y.S. 673; Public Service Commission v. Iroquois Natural Gas Co., 189 App.Div. 545, 179 N.Y.S. 230.

FN19 People ex rel. Pennsylvania Gas Co. v. Public Service Commission, 196 App.Div. 514, 189 N.Y.S. 478.

FN20 East Ohio Gas Co. v. Akron, 81 Ohio St. 33, 90 N.E. 40, 26 L.R.A., N.S., 92, 18 Ann.Cas. 332; Village of New-comerstown v. Consolidated Gas Co., 100 Ohio St. 494, 127 N.E. 414; Gress v. Village of Ft. Laramie, 100 Ohio St. 35, 125 N.E. 112, 8 A.L.R. 242; City of Jamestown v. Pennsylvania Gas Co., D.C., 263 F. 437; Id., D.C., 264 F. 1009. See, also, United Fuel Gas Co. v. Railroad Commission, 278 U.S. 300, 308, 49 S.Ct. 150, 152, 73 L.Ed. 390.

FN21 The New York Public Service Commission said: 'While the transportation of natural gas through pipe lines from one state to another state is interstate commerce * * *, Congress has not taken over the regulation of

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that particular industry. Indeed, it has expressly excepted it from the operation of the Interstate Commerce Commissions Law (Interstate Commerce Commissions Law, section 1). It is quite clear, therefore, that this Commission can not require a Pennsylvania corporation producing gas in Pennsylvania to transport it and deliver it in the State of New York, and that the Interstate Commerce Commission is likewise powerless. If there exists such a power, and it seems that there does, it is a power vested in Congress and by it not yet exercised. There is no available source of supply for the Crystal City Company at present except through purchasing from the Porter Gas Company. It is possible that this Commission might fix a price at which the Potter Gas Company should sell if it sold at all, but as the Commission can not require it to supply gas in the State of New York, the exercise of such a power to fix the price, if such power exists, would merely say, sell at this price or keep out of the State.' Lane v. Crystal City Gas Co., 8 New York Public Service Comm.Reports, Second District, 210, 212.

****303 *634** Shortages during World War I occasioned the first intervention in the natural gas industry by the Federal Government. Under Proclamation of President Wilson the United States Fuel Administrator took control, stopped extensions, classified consumers and established a priority for domestic over industrial use. [FN22] After the war federal control was abandoned. Some cities once served with natural gas became dependent upon mixed gas of reduced heating value and relatively higher price. [FN23]

FN22 Proclamation by the President of September 16, 1918; Rules and Regulations of H. A. Garfield, Fuel Administrator, September 24, 1918.

FN23 For example, the Iroquois Gas Corporation which formerly served Buffalo, New York, with natural gas ranging from 1050 to 1150 b.t.u. per cu. ft., now mixes a by-product gas of between 530 and 540 b.t.u. in proportions to provide a mixed gas of about 900 b.t.u. per cu. ft. For space heating or water heating its charges range from 65 cents for the first m.c.f. per month to 55 cents for all above 25 m.c.f. per month. Moody's Manual of Public Utilities (1943) 1350.

Utilization of natural gas of highest social as well as economic return is domestic use for cooking and water ***635** heating, followed closely by use for space heating in homes. This is the true public utility aspect of the enterprise, and its preservation should be the first concern of regulation. Gas does the family cooking cheaper than any other fuel. [FN24] But its advantages do not end with dollars and cents cost. It is delivered without interruption at the meter as needed and is paid for after it is used. No money is tied up in a supply, and no space is used for storage. It requires no handling, creates no dust, and leaves no ash. It responds to thermostatic control. It ignites easily and immediately develops its maximum heating capacity. These incidental advantages make domestic life more liveable.

FN24 The United States Fuel Administration made the following cooking value comparisons, based on tests made in the Department of Home Economics of Ohio State University:
Natural gas at 1.12 per M. is equivalent to coal at $6.50 per ton.
Natural gas at 2.00 per M. is equivalent to gasoline at 27¢ per gal.
Natural gas at 2.20 per M. is equivalent to electricity at 3¢ per k.w.h.
Natural gas at 2.40 per M. is equivalent to coal oil at 15¢ per gal.
Use and Conservation of Natural Gas, issued by U.S. Fuel Administration (1918) 5.

Industrial use is induced less by these qualities than by low cost in competition with other fuels. Of the gas exported from West Virginia by the Hope Company a very substantial part is used by industries. This wholesale use speeds exhaustion of supply and displaces other fuels. Coal miners and the coal industry, a large part of whose costs are wages, have complained of unfair competition from low-priced industrial gas produced with relatively little labor cost. [FN25]

FN25 See Brief on Behalf jof Legislation Imposing an Excise Tax on Natural Gas, submitted to N.R.A. by the United Mine Workers of America and the National Coal Association.

Gas rate structures generally have favored industrial users. In 1932, in Ohio, the average yield on gas for domestic consumption was 62.1 cents per m.c.f. and on industrial,***636** 38.7. In Pennsylvania, the figures were 62.9 against 31.7. West Virginia showed the least spread, domestic consumers paying 36.6 cents; and industrial, 27.7. [FN26] Although this spread is less than ****304** in other parts of the United States, [FN27] it can hardly be said to be

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self-justifying. It certainly is a very great factor in hastening decline of the natural gas supply.

FN26 Brief of National Gas Association and United Mine Workers, supra, note 26, pp. 35, 36, compiled from Bureau of Mines Reports.

FN27 From the source quoted in the preceding note the spread elsewhere is shown to be:

State.	Industrial	Domestic
Illinois.	29.2	1.678
Louisiana.	10.4	59.7
Oklahoma.	11.2	41.5
Texas.	13.1	59.7
Alabama.	17.8	1.227
Georgia.	22.9	1.043

About the time of World War I there were occasional and short-lived efforts by some hard-pressed companies to reverse this discrimination and adopt graduated rates, giving a low rate to quantities adequate for domestic use and graduating it upward to discourage industrial use. FN28 ***637** These rates met opposition from industrial sources, of course, and since diminished revenues from industrial sources tended to increase the domestic price, they met little popular or commission favor. The fact is that neither the gas companies nor the consumers nor local regulatory bodies can be depended upon to conserve gas. Unless federal regulation will take account of conservation, its efforts seem, as in this case, actually to constitute a new threat to the life of the Appalachian supply.

FN28 In Corning, New York, rates were initiated by the Crystal City Gas Company as follows: 70¢ for the first 5,000 cu. ft. per month; 80¢ from 5,000 to 12,000; $1 for all over 12,000. The Public Service Commission rejected these rates and fixed a flat rate of 58¢ per m.c.f. Lane v. Crystal City Gas Co., 8 New York Public Service Comm. Reports, Second District, 210.
The Pennsylvania Gas Company (National Fuel Gas Company group) also attempted a sliding scale rate for New York consumers, net per month as follows: First 5,000 feet, 35¢ ; second 5,000 feet, 45¢ ; third 5,000 feet, 50¢ ; all above 15,000, 55¢ . This was eventually abandoned, however. The company's present scale in Pennsylvania appears to be reversed to the following net monthly rate; first 3 m.c.f., 75¢ ; next 4 m.c.f., 60¢ ; next 8 m.c.f., 55¢ ; over 15 m.c.f., 50¢ . Moody's Manual of Public Utilities (1943) 1350. In New York it now serves a mixed gas.
For a study of effect of sliding scale rates in reducing consumption see 11 Proceedings of Natural Gas Association of America (1919) 287.

II.

Congress in 1938 decided upon federal regulation of the industry. It did so after an exhaustive investigation of all aspects including failing supply and competition for the use of natural gas intensified by growing scarcity. FN29 Pipelines from the Appalachian area to markets were in the control of a handful of holding company systems. FN30 This created a highly concentrated control of the producers' market and of the consumers' supplies. While holding companies dominated both production and distribution they segregated those activities in separate ***638** subsidiaries, FN31 the effect of which, if not the purpose, was to isolate ****305** some end of the business from the reach of any one state commission. The cost of natural gas to consumers moved steadily upwards over the years, out of proportion to prices of oil, which, except for the element of competition, is produced under somewhat comparable conditions. The public came to feel that the companies were exploiting the growing scarcity of local gas. The problems of this region had much to do with creating the demand for federal regulation.

FN29 See Report on Utility Corporations by Federal Trade Commission, Sen. Doc. 92, Pt. 84-A, 70th Cong., 1st Sess.

FN30 Four holding company systems control over 55 per cent of all natural gas transmission lines in the United States. They are Columbia Gas and Electric Corporation, Cities Service Co., Electric Bond and Share Co., and Standard Oil Co. of New Jersey. Columbia alone controls nearly 25 per cent, and fifteen companies account for over 80 per cent of the total. Report on Utility Corporations by Federal Trade Commission, Sen. Doc. 92, Pt. 84-A, 70th Cong., 1st Sess., 28.
In 1915, so it was reported to the Governor of West

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Virginia, 87 per cent of the total gas production of that state was under control of eight companies. Steptoe and Hoffheimer, Legislative Regulation of Natural Gas Supply in West Virginia, 17 West Virginia Law Quarterly 257, 260. Of these, three were subsidiaries of the Columbia system and others were subsidiaries of larger systems. In view of inter-system sales and interlocking interests it may be doubted whether there is much real competition among these companies.

FN31 This pattern with its effects on local regulatory efforts will be observed in our decisions. See United Fuel Gas Co. v. Railroad Commission, 278 U.S. 300, 49 S.Ct. 150, 73 L.Ed. 390; United Fuel Gas Co. v. Public Service Commission, 278 U.S. 322, 49 S.Ct. 157, 73 L.Ed. 402; Dayton Power & Light v. Public Utilities Commission, 292 U.S. 290, 54 S.Ct. 647, 78 L.Ed. 1267; Columbus Gas & Fuel Co. v. Public Utilities Commission, 292 U.S. 398, 54 S.Ct. 763, 78 L.Ed. 1327, 91 A.L.R. 1403, and the present case.

The Natural Gas Act declared the natural gas business to be 'affected with a public interest,' and its regulation 'necessary in the public interest.' FN32 Originally, and at the time this proceeding was commenced and tried, it also declared 'the intention of Congress that natural gas shall be sold in interstate commerce for resale for ultimate public consumption for domestic, commercial, industrial, or any other use at the lowest possible reasonable rate consistent with the maintenance of adequate service in the public interest.' FN33 While this was later dropped, there is nothing to indicate that it was not and is not still an accurate statement of purpose of the Act. Extension or improvement of facilities may be ordered when 'necessary or desirable in the public interest,' abandonment of facilities may be ordered when the supply is 'depleted to the extent that the continuance of service is unwarranted, or that the present or future public convenience or necessity ***639** permit' abandonment and certain extensions can only be made on finding of 'the present or future public convenience and necessity.' FN34 The Commission is required to take account of the ultimate use of the gas. Thus it is given power to suspend new schedules as to rates, charges, and classification of services except where the schedules are for the sale of gas 'for resale for industrial use only,' FN35 which gives the companies greater freedom to increase rates on industrial gas than on domestic gas. More particularly, the Act expressly forbids any undue preference or advantage to any person or 'any unreasonable difference in rates * * * either as between localities or as between classes of service.' FN36 And the power of the Commission expressly includes that to determine the 'just and reasonable rate, charge, classification, rule, regulation, practice, or contract to be thereafter observed and in force.' FN37

FN32 15 U.S.C. s 717(a), 15 U.S.C.A. s 717(a). (Italics supplied throughout this paragraph.)

FN33 s 7(c), 52 Stat. 825, 15 U.S.C.A. s 717f(c).

FN34 15 U.S.C. s 717f, 15 U.S.C.A. s 717f.

FN35 Id., s 717c(e).

FN36 Id., s 717c(b).

FN37 Id., s 717d(a).

In view of the Court's opinion that the Commission in administering the Act may ignore discrimination, it is interesting that in reporting this Bill both the Senate and the House Committees on Interstate Commerce pointed out that in 1934, on a nationwide average the price of natural gas per m.c.f. was 74.6 cents for domestic use, 49.6 cents for commercial use, and 16.9 for industrial use. FN38 I am not ready to think that supporters of a bill called attention to the striking fact that householders were being charged five times as much for their gas as industrial users only as a situation which the Bill would do nothing to remedy. On the other hand the Act gave to the Commission what the Court aptly describes as 'broad powers of regulation.'

FN38 Sen. Rep. No. 1162, 75th Cong., 1st Sess. 2.

***640** III.

This proceeding was initiated by the Cities of Cleveland and Akron. They alleged that the price charged by Hope for natural gas 'for resale to domestic, commercial and small industrial consumers in Cleveland and elsewhere is excessive, unjust, unreasonable, greatly in excess of the price charged by Hope to nonaffiliated companies at wholesale for resale to domestic, commercial and small industrial consumers, and greatly in excess of the price charged by Hope to East Ohio for resale to certain favored industrial consumers in Ohio, and therefore is further unduly discriminatory between consumers and between classes of service' (italics supplied). The company answered admitting differences in prices to affiliated and nonaffiliated companies and justifying them by differences in conditions of delivery.****306** As to the allegation that the contract price is 'greatly in excess of the price charged by Hope to East Ohio for resale to

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certain favored industrial consumers in Ohio,' Hope did not deny a price differential, but alleged that industrial gas was not sold to 'favored consumers' but was sold under contract and schedules filed with and approved by the Public Utilities Commission of Ohio, and that certain conditions of delivery made it not 'unduly discriminatory.'

The record shows that in 1940 Hope delivered for industrial consumption 36,523,792 m.c.f. and for domestic and commercial consumption, 50,343,652 m.c.f. I find no separate figure for domestic consumption. It served 43,767 domestic consumers directly, 511,521 through the East Ohio Gas Company, and 154,043 through the Peoples Natural Gas Company, both affiliates owned by the same parent. Its special contracts for industrial consumption, so far as appear, are confined to about a dozen big industries.

***641** Hope is responsible for discrimination as exists in favor of these few industrial consumers. It controls both the resale price and use of industrial gas by virtue of the very interstate sales contracts over which the Commission is exercising its jurisdiction.

Hope's contract with East Ohio Company is an example. Hope agrees to deliver, and the Ohio Company to take, '(a) all natural gas requisite for the supply of the domestic consumers of the Ohio Company; (b) such amounts of natural gas as may be requisite to fulfill contracts made with the consent and approval of the Hope Company by the Ohio Company, or companies which it supplies with natural gas, for the sale of gas upon special terms and conditions for manufacturing purposes.' The Ohio company is required to read domestic customers' meters once a month and meters of industrial customers daily and to furnish all meter readings to Hope. The Hope Company is to have access to meters of all consumers and to all of the Ohio Company's accounts. The domestic consumers of the Ohio Company are to be fully supplied in preference to consumers purchasing for manufacturing purposes and 'Hope Company can be required to supply gas to be used for manufacturing purposes only where the same is sold under special contracts which have first been submitted to and approved in writing by the Hope Company and which expressly provide that natural gas will be supplied thereunder only in so far as the same is not necessary to meet the requirements of domestic consumers supplied through pipe lines of the Ohio Company.' This basic contract was supplemented from time to time, chiefly as to price. The last amendment was in a letter from Hope to East Ohio in 1937. It contained a special discount on industrial gas and a schedule of special industrial contracts, Hope reserving the right to make eliminations therefrom and agreeing that others might be added from time to ***642** time with its approval in writing. It said, 'It is believed that the price concessions contained in this letter, while not based on our costs, are under certain conditions, to our mutual advantage in maintaining and building up the volumes of gas sold by us (italics supplied).' FN39

FN39 The list of East Ohio Gas Company's special industrial contracts thus expressly under Hope's control and their demands are as follows:

****307** The Commission took no note of the charges of discrimination and made no disposition of the issue tendered on this point. It ordered a flat reduction in the price per m.c.f. of all gas delivered by Hope in interstate commerce. It made no limitation, condition, or provision as to what classes of consumers should get the benefit of the reduction. While the cities have accepted and are defending the reduction, it is my view that the discrimination of which they have complained is perpetuated and increased by the order of the Commission and that it violates the Act in so doing.

The Commission's opinion aptly characterizes its entire objective by saying that 'bona fide investment figures now become all-important in the regulation of rates.' It should be noted that the all-importance of this theory is not the result of any instruction from Congress. When the Bill to regulate gas was first before Congress it contained***643** the following: 'In determining just and reasonable rates the Commission shall fix such rate as will allow a fair return upon the actual legitimate prudent cost of the property used and useful for the service in question.' H.R. 5423, 74th Cong., 1st Sess. Title III, s 312(c). Congress rejected this language. See H.R. 5423, s 213 (211(c)), and H.R. Rep. No. 1318, 74th Cong., 1st Sess. 30.

The Commission contends nevertheless that the 'all important' formula for finding a rate base is that of prudent investment. But it excluded from the investment base an amount actually and admittedly invested of some $17,000,000. It did so because it says that the Company recouped these expenditures from customers before the days of regulation from earnings above a fair return. But it would not apply all of such 'excess earnings' to reduce the rate base as one of the Commissioners suggested. The reason for applying excess earnings to reduce the investment base roughly from $69,000,000 to $52,000,000 but refusing to apply them to reduce it from that to some $18,000,000 is not found in a difference in the character of the earnings or in their reinvestment. The reason assigned is a difference in bookkeeping treatment many years before the Company was subject to regulation. The $17,000,000, reinvested chiefly in well

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drilling, was treated on the books as expense. (The Commission now requires that drilling costs be carried to capital account.) The allowed rate base thus actually was determined by the Company's bookkeeping, not its investment. This attributes a significance to formal classification in account keeping that seems inconsistent with rational rate regulation. FN40 Of ***644** course, the ****308** Commission would not and should not allow a rate base to be inflated by bookkeeping which had improperly capitalized expenses. I have doubts about resting public regulation upon any rule that is to be used or not depending on which side it favors.

> FN40 To make a fetish of mere accounting is to shield from examination the deeper causes, forces, movements, and conditions which should govern rates. Even as a recording of current transactions, bookkeeping is hardly an exact science. As a representation of the condition and trend of a business, it uses symbols of certainty to express values that actually are in constant flux. It may be said that in commercial or investment banking or any business extending credit success depends on knowing what not to believe in accounting. Few concerns go into bankruptcy or reorganization whose books do not show them solvent and often even profitable. If one cannot rely on accountancy accurately to disclose past or current conditions of a business, the fallacy of using it as a sole guide to future price policy ought to be apparent. However, our quest for certitude is so ardent that we pay an irrational reverence to a technique which uses symbols of certainty, even though experience again and again warns us that they are delusive. Few writers have ventured to challenge this American idolatry, but see Hamilton, Cost as a standard for Price, 4 Law and Contemporary Problems 321, 323-25. He observes that 'As the apostle would put it, accountancy is all things to all men. * * * Its purpose determines the character of a system of accounts.' He analyzes the hypothetical character of accounting and says 'It was no eternal mold for pecuniary verities handed down from on high. It was-like logic or algebra, or the device of analogy in the law-an ingenious contrivance of the human mind to serve a limited and practical purpose.' 'Accountancy is far from being a pecuniary expression of all that is industrial reality. It is an instrument, highly selective in its application, in the service of the institution of money making.' As to capital account he observes 'In an enterprise in lusty competition with others of its kind, survival is the thing and the system of accounts has its focus in solvency. * * * Accordingly depreciation, obsolescence, and other factors which carry no immediate threat are matters of lesser concern and the capital account is likely to be regarded as a secondary phenomenon. * * * But in an enterprise, such as a public utility, where continued survival seems assured, solvency is likely to be taken for granted. * * * A persistent and ingenious attention is likely to be directed not so much to securing the upkeep of the physical property as to making it certain that capitalization fails in not one whit to give full recognition to every item that should go into the account.'

***645** The Company on the other hand, has not put its gas fields into its calculations on the present-value basis, although that, it contends, is the only lawful rule for finding a rate base. To do so would result in a rate higher than it has charged or proposes as a matter of good business to charge.

The case before us demonstrates the lack of rational relationship between conventional rate-base formulas and natural gas production and the extremities to which regulating bodies are brought by the effort to rationalize them. The Commission and the Company each stands on a different theory, and neither ventures to carry its theory to logical conclusion as applied to gas fields.

IV.

This order is under judicial review not because we interpose constitutional theories between a State and the business it seeks to regulate, but because Congress put upon the federal courts a duty toward administration of a new federal regulatory Act. If we are to hold that a given rate is reasonable just because the Commission has said it was reasonable, review becomes a costly, time-consuming pageant of no practical value to anyone. If on the other hand we are to bring judgment of our own to the task, we should for the guidance of the regulators and the regulated reveal something of the philosophy, be it legal or economic or social, which guides us. We need not be slaves to a formula but unless we can point out a rational way of reaching our conclusions they can only be accepted as resting on intuition or predilection. I must admit that I possess no instinct jby which to know the 'reasonable' from the 'unreasonable' in prices and must seek some conscious design for decision.

The Court sustains this order as reasonable, but what makes it so or what could possibly make it otherwise,

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***646** I cannot learn. It holds that: 'it is the result reached not the method employed which is controlling'; 'the fact that the method employed to reach that result may contain infirmities is not then important' and it is not 'important to this case to determine the various permissible ways in which any rate base on which the return is computed might be arrived at.' The Court does lean somewhat on considerations of capitalization and dividend history and requirements for dividends on outstanding stock. But I can give no real weight to that for it is generally and I think deservedly in discredit as any guide in rate cases. FN41

FN41 See 2 Bonbright, Valuation of Property (1937) 1112.

Our books already contain so much talk of methods of rationalizing rates that we must appear ambiguous if we announce results without our working methods. We are confronted with regulation of a unique type of enterprise which I think requires considered rejection of much conventional utility doctrine and adoption of concepts of 'just and reasonable' rates and practices and of the 'public interest' that will take account of the peculiarities of the business.

The Court rejects the suggestions of this opinion. It says that the Committees in reporting the bill which became the Act said it provided 'for regulation along recognized and more or less standardized lines' and that there was 'nothing novel in its provisions.' So saying it sustains a rate calculated on a novel variation of a rate base theory which itself had at the time of enactment of the legislation been recognized only in dissenting opinions. Our difference seems to be between unconscious innovation, FN42 and the purposeful ****309** and deliberate innovation I ***647** would make to meet the necessities of regulating the industry before us.

FN42 Bonbright says, '* * * the vice of traditional law lies, not in its adoption of excessively rigid concepts of value and rules of valuation, but rather in its tendency to permit shifts in meaning that are inept, or else that are ill-defined because the judges that make them will not openly admit that they are doing so.' Id., 1170.

Hope's business has two components of quite divergent character. One, while not a conventional common-carrier undertaking, is essentially a transportation enterprise consisting of conveying gas from where it is produced to point of delivery to the buyer. This is a relatively routine operation not differing substantially from many other utility operations. The service is produced by an investment in compression and transmission facilities. Its risks are those of investing in a tested means of conveying a discovered supply of gas to a known market. A rate base calculated on the prudent investment formula would seem a reasonably satisfactory measure for fixing a return from that branch of the business whose service is roughly proportionate to the capital invested. But it has other consequences which must not be overlooked. It gives marketability and hence 'value' to gas owned by the company and gives the pipeline company a large power over the marketability and hence 'value' of the production of others.

The other part of the business-to reduce to possession an adequate supply of natural gas-is of opposite character, being more erratic and irregular and unpredictable in relation to investment than any phase of any other utility business. A thousand feet of gas captured and severed from real estate for delivery to consumers is recognized under our law as property of much the same nature as a ton of coal, a barrel of oil, or a yard of sand. The value to be allowed for it is the real battleground between the investor and consumer. It is from this part of the business that the chief difference between the parties as to a proper rate base arises.

It is necessary to a 'reasonable' price for gas that it be anchored to a rate base of any kind? Why did courts in the first place begin valuing 'rate bases' in order to 'value' something else? The method came into vogue ***648** in fixing rates for transportation service which the public obtained from common carriers. The public received none of the carriers' physical property but did make some use of it. The carriage was often a monopoly so there were no open market criteria as to reasonableness. The 'value' or 'cost' of what was put to use in the service by the carrier was not a remote or irrelevant consideration in making such rates. Moreover the difficulty of appraising an intangible service was thought to be simplified if it could be related to physical property which was visible and measurable and the items of which might have market value. The court hoped to reason from the known to the unknown. But gas fields turn this method topsy turvy. Gas itself is tangible, possessible, and does have a market and a price in the field. The value of the rate base is more elusive than that of gas. It consists of intangibles-leaseholds and freeholds-operated and unoperated-of little use in themselves except as rights to reach and capture gas. Their value lies almost wholly in predictions of discovery, and of price of gas when captured, and bears little relation to cost of tools and supplies and labor to develop it. Gas is what Hope sells and it can be directly priced more reasonably and easily and accurately than the

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components of a rate base can be valued. Hence the reason for resort to a roundabout way of rate base price fixing does not exist in the case of gas in the field.

But if found, and by whatever method found, a rate base is little help in determining reasonableness of the price of gas. Appraisal of present value of these intangible rights to pursue fugitive gas depends on the value assigned to the gas when captured. The 'present fair value' rate base, generally in ill repute, [FN43] is not even ****310** urged by the gas company for valuing its fields.

> FN43 'The attempt to regulate rates by reference to a periodic or occasional reappraisal of the properties has now been tested long enough to confirm the worst fears of its critics. Unless its place is taken by some more promising scheme of rate control, the days of private ownership under government regulation may be numbered.' 2 Bonbright, Valuation of Property (1937) 1190.

***649** The prudent investment theory has relative merits in fixing rates for a utility which creates its service merely by its investment. The amount and quality of service rendered by the usual utility will, at least roughly, be measured by the amount of capital it puts into the enterprise. But it has no rational application where there is no such relationship between investment and capacity to serve. There is no such relationship between investment and amount of gas produced. Let us assume that Doe and Roe each produces in West Virginia for delivery to Cleveland the same quantity of natural gas per day. Doe, however, through luck or foresight or whatever it takes, gets his gas from investing $50,000 in leases and drilling. Roe drilled poorer territory, got smaller wells, and has invested $250,000. Does anybody imagine that Roe can get or ought to get for his gas five times as much as Doe because he has spent five times as much? The service one renders to society in the gas business is measured by what he gets out of the ground, not by what he puts into it, and there is little more relation between the investment and the results than in a game of poker.

Two-thirds of the gas Hope handles it buys from about 340 independent producers. It is obvious that the principle of rate-making applied to Hope's own gas cannot be applied, and has not been applied, to the bulk of the gas Hope delivers. It is not probable that the investment of any two of these producers will bear the same ratio to their investments. The gas, however, all goes to the same use, has the same utilization value and the same ultimate price.

To regulate such an enterprise by undiscriminatingly transplanting any body of rate doctrine conceived and ***650** adapted to the ordinary utility business can serve the 'public interest' as the Natural Gas Act requires, if at all, only by accident. Mr. Justice Brandeis, the pioneer juristic advocate of the prudent investment theory for man-made utilities, never, so far as I am able to discover, proposed its application to a natural gas case. On the other hand, dissenting in Commonwealth of Pennsylvania v. West Virginia, he reviewed the problems of gas supply and said, 'In no other field of public service regulation is the controlling body confronted with factors so baffling as in the natural gas industry, and in none is continuous supervision and control required in so high a degree.' 262 U.S. 553, 621, 43 S.Ct. 658, 674, 67 L.Ed. 1117, 32 A.L.R. 300. If natural gas rates are intelligently to be regulated we must fit our legal principles to the economy of the industry and not try to fit the industry to our books.

As our decisions stand the Commission was justified in believing that it was required to proceed by the rate base method even as to gas in the field. For this reason the Court may not merely wash its hands of the method and rationale of rate making. The fact is that this Court, with no discussion of its fitness, simply transferred the rate base method to the natural gas industry. It happened in Newark Natural Gas & Fuel Co. v. City of Newark, Ohio, 1917, 242 U.S. 405, 37 S.Ct. 156, 157, 61 L.Ed. 393, Ann.Cas.1917B, 1025, in which the company wanted 25 cents per m.c.f., and under the Fourteenth Amendment challenged the reduction to 18 cents by ordinance. This Court sustained the reduction because the court below 'gave careful consideration to the questions of the value of the property * * * at the time of the inquiry,' and whether the rate 'would be sufficient to provide a fair return on the value of the property.' The Court said this method was 'based upon principles thoroughly established by repeated secisions of this court,' citing many cases, not one of which involved natural gas or a comparable wasting natural resource. Then came issues as to state power to ***651** regulate as affected by the commerce clause. Public Utilities Commission v. Landon, 1919, 249 U.S. 236, 39 S.Ct. 268, 63 L.Ed. 577; Pennsylvania Gas Co. v. Public Service Commission, 1920, 252 U.S. 23, 40 S.Ct. 279, 64 L.Ed. 434. These questions settled, the Court again was called upon in natural gas cases to consider state rate-making claimed to be invalid under the Fourteenth Amendment. United Fuel Gas Co. v. Railroad Commission of Kentucky, 1929, 278 U.S. 300, 49 S.Ct. 150, 73 L.Ed. 390; United Fuel Gas Company v. Public Service Commission of West Virginia, 1929, 278 U.S. 322, 49 S.Ct. 157, 73 L.Ed. 402. Then, as now, the differences were 'due ****311** chiefly to the difference in value ascribed by each to the gas rights and leaseholds.' 278 U.S. 300, 311, 49 S.Ct. 150, 153, 73 L.Ed. 390. No one seems to have questioned that the rate

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base method must be pursued and the controversy was at what rate base must be used. Later the 'value' of gas in the field was questioned in determining the amount a regulated company should be allowed to pay an affiliate therefor-a state determination also reviewed under the Fourteenth Amendment. Dayton Power & Light Co. v. Public Utilities Commission of Ohio, 1934, 292 U.S. 290, 54 S.Ct. 647, 78 L.Ed. 1267; Columbus Gas & Fuel Co. v. Public Utilities Commission of Ohio, 1934, 292 U.S. 398, 54 S.Ct. 763, 78 L.Ed. 1327, 91 A.L.R. 1403. In both cases, one of which sustained, and one of which struck down a fixed rate the Court assumed the rate base method, as the legal way of testing reasonableness of natural gas prices fixed by public authority, without examining its real relevancy to the inquiry.

Under the weight of such precedents we cannot expect the Commission to initiate economically intelligent methods of fixing gas prices. But the Court now faces a new plan of federal regulation based on the power to fix the price at which gas shall be allowed to move in interstate commerce. I should now consider whether these rules devised under the Fourteenth Amendment are the exclusive tests of a just and reasonable rate under the federal statute, inviting reargument directed to that point ***652** if necessary. As I see it now I would be prepared to hold that these rules do not apply to a natural gas case arising under the Natural Gas Act.

Such a holding would leave the Commission to fix the price of gas in the field as one would fix maximum prices of oil or milk or coal, or any other commodity. Such a price is not calculated to produce a fair return on the synthetic value of a rate base of any individual producer, and would not undertake to assure a fair return to any producer. The emphasis would shift from the producer to the product, which would be regulated with an eye to average or typical producing conditions in the field.

Such a price fixing process on economic lines would offer little temptation to the judiciary to become back seat drivers of the price fixing machine. The unfortunate effect of judicial intervention in this field is to divert the attention of those engaged in the process from what is economically wise to what is legally permissible. It is probable that price reductions would reach economically unwise and self-defeating limits before they would reach constitutional ones. Any constitutional problems growing out of price fixing are quite different than those that have heretofore been considered to inhere in rate making. A producer would have difficulty showing the invalidity of such a fixed price so long as he voluntarily continued to sell his product in interstate commerce. Should he withdraw and other authority be invoked to compel him to part with his property, a different problem would be presented.

Allowance in a rate to compensate for gas removed from gas lands, whether fixed as of point of production or as of point of delivery, probably best can be measured by a functional test applied to the whole industry. For good or ill we depend upon private enterprise to exploit these natural resources for public consumption. The function which an allowance for gas in the field should perform ***653** for society in such circumstances is to be enough and no more than enough to induce private enterprise completely and efficiently to utilize gas resources, to acquire for public service any available gas or gas rights and to deliver gas at a rate and for uses which will be in the future as well as in the present public interest.

The Court fears that 'if we are now to tell the Commission to fix the rates so as to discourage particular uses, we would indeed be injecting into a rate case a 'novel' doctrine * * *.' With due deference I suggest that there is nothing novel in the idea that any change in price of a service or commodity reacts to encourage or discourage its use. The question is not whether such consequences will or will not follow; the question is whether effects must be suffered blindly or may be intelligently selected, whether price control shall have targets at which it deliberately aims or shall be handled like a gun in the hands of one who does not know it is loaded.

We should recognize 'price' for what it is-a tool, a means, an expedient. In public****312** hands it has much the same economic effects as in private hands. Hope knew that a concession in industrial price would tend to build up its volume of sales. It used price as an expedient to that end. The Commission makes another cut in that same price but the Court thinks we should ignore the effect that it will have on exhaustion of supply. The fact is that in natural gas regulation price must be used to reconcile the private property right society has permitted to vest in an important natural resource with the claims of society upon it-price must draw a balance between wealth and welfare.

To carry this into techniques of inquiry is the task of the Commissioner rather than of the judge, and it certainly is no task to be solved by mere bookkeeping but requires the best economic talent available. There would doubtless be inquiry into the price gas is bringing in the ***654** field, how far that price is established by arms' length bargaining and how far it may be influenced by agreements in restraint of trade or monopolistic influences. What must Hope really pay to get and to replace gas it delivers under this order? If it should get more or less than that for its own, how much and why? How far are such prices influenced by pipe line access to

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markets and if the consumers pay returns on the pipe lines how far should the increment they cause go to gas producers? East Ohio is itself a producer in Ohio. [FN44] What do Ohio authorities require Ohio consumers to pay for gas in the field? Perhaps these are reasons why the Federal Government should put West Virginia gas at lower or at higher rates. If so what are they? Should East Ohio be required to exploit its half million acres of unoperated reserve in Ohio before West Virginia resources shall be supplied on a devalued basis of which that State complains and for which she threatens measures of self keep? What is gas worth in terms of other fuels it displaces?

FN44 East Ohio itself owns natural gas rights in 550,600 acres, 518,526 of which are reserved and 32,074 operated, by 375 wells. Moody's Manual of Public Utilities (1943) 5.

A price cannot be fixed without considering its effect on the production of gas. Is it an incentive to continue to exploit vast unoperated reserves? Is it conducive to deep drilling tests the result of which we may know only after trial? Will it induce bringing gas from afar to supplement or even to substitute for Appalachian gas? [FN45] Can it be had from distant fields as cheap or cheaper? If so, that competitive potentiality is certainly a relevant consideration. Wise regulation must also consider, as a private buyer would, what alternatives the producer has ***655** if the price is not acceptable. Hope has intrastate business and domestic and industrial customers. What can it do by way of diverting its supply to intrastate sales? What can it do by way of disposing of its operated or reserve acreage to industrial concerns or other buyers? What can West Virginia do by way of conservation laws, severance or other taxation, if the regulated rate offends? It must be borne in mind that while West Virginia was prohibited from giving her own inhabitants a priority that discriminated against interstate commerce, we have never yet held that a good faith conservation act, applicable to her own, as well as to others, is not valid. In considering alternatives, it must be noted that federal regulation is very incomplete, expressly excluding regulation of 'production or gathering of natural gas,' and that the only present way to get the gas seems to be to call it forth by price inducements. It is plain that there is a downward economic limit on a safe and wise price.

FN45 Hope has asked a certificate of convenience and necessity to lay 1140 miles of 22-inch pipeline from Hugoton gas fields in southwest Kansas to West Virginia to carry 285 million cu. ft. of natural gas per day. The cost was estimated at $51,000,000. Moody's Manual of Public Utilities (1943) 1760.

But there is nothing in the law which compels a commission to fix a price at that 'value' which a company might give to its product by taking advantage of scarcity, or monopoly of supply. The very purpose of fixing maximum prices is to take away from the seller his opportunity to get all that otherwise the market would award him for his goods. This is a constitutional use of the power to fix maximum prices, ****313**Block v. Hirsh, 256 U.S. 135, 41 S.Ct. 458, 65 L.Ed. 865, 16 A.L.R. 165; Marcus Brown Holding Co. v. Feldman, 256 U.S. 170, 41 S.Ct. 465, 65 L.Ed. 877; International Harvester Co. v. Kentucky, 234 U.S. 216, 34 S.Ct. 853, 58 L.Ed. 1284; Highland v. Russell Car & Snow Plow Co., 279 U.S. 253, 49 S.Ct. 314, 73 L.Ed. 688, just as the fixing of minimum prices of goods in interstate commerce is constitutional although it takes away from the buyer the advantage in bargaining which market conditions would give him. United States v. Darby, 312 U.S. 100, 657, 61 S.Ct. 451, 85 L.Ed. 609, 132 A.L.R. 1430; Mulford v. Smith, 307 U.S. 38, 59 S.Ct. 648, 83 L.Ed. 1092; United States v. Rock Royal Co-operative, Inc., 307 U.S. 533, 59 S.Ct. 993, 83 L.Ed. 1446; Sunshine Anthracite Coal Co. v. Adkins, 310 U.S. 381, 60 S.Ct. 907, 84 L.Ed. 1263. The Commission has power to fix ***656** a price that will be both maximum and minimum and it has the incidental right, and I think the duty, to choose the economic consequences it will promote or retard in production and also more importantly in consumption, to which I now turn.

If we assume that the reduction in company revenues is warranted we then come to the question of translating the allowed return into rates for consumers or classes of consumers. Here the Commission fixed a single rate for all gas delivered irrespective of its use despite the fact that Hope has established what amounts to two rates-a high one for domestic use and a lower one for industrial contracts. [FN46] The Commission can fix two prices for interstate gas as readily as one-a price for resale to domestic users and another for resale to industrial users. This is the pattern Hope itself has established in the very contracts over which the Commission is expressly given jurisdiction. Certainly the Act is broad enough to permit two prices to be fixed instead of one, if the concept of the 'public interest' is not unduly narrowed.

FN46 I find little information as to the rates for industries in the record and none at all in such usual sources as Moody's Manual.

The Commission's concept of the public interest in natural

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gas cases which is carried today into the Court's opinion was first announced in the opinion of the minority in the Pipeline case. It enumerated only two 'phases of the public interest: (1) the investor interest; (2) the consumer interest,' which it emphasized to the exclusion of all others. 315 U.S. 575, 606, 62 S.Ct. 736, 753, 86 L.Ed. 1037. This will do well enough in dealing with railroads or utilities supplying manufactured gas, electric, power, a communications service or transportation, where utilization of facilities does not impair their future usefulness. Limitation of supply, however, brings into a natural gas case another phase of the public interest that to my mind overrides both the owner ***657** and the consumer of that interest. Both producers and industrial consumers have served their immediate private interests at the expense of the long-range public interest. The public interest, of course, requires stopping unjust enrichment of the owner. But it also requires stopping unjust impoverishment of future generations. The public interest in the use by Hope's half million domestic consumers is quite a different one from the public interest in use by a baker's dozen of industries.

Prudent price fixing it seems to me must at the very threshold determine whether any part of an allowed return shall be permitted to be realized from sales of gas for resale for industrial use. Such use does tend to level out daily and seasonal peaks of domestic demand and to some extent permits a lower charge for domestic service. But is that a wise way of making gas cheaper when, in comparison with any substitute, gas is already a cheap fuel? The interstate sales contracts provide that at times when demand is so great that there is not enough gas to go around domestic users shall first be served. Should the operation of this preference await the day of actual shortage? Since the propriety of a preference seems conceded, should it not operate to prevent the coming of a shortage as well as to mitigate its effects? Should industrial use jeopardize tomorrow's service to householders any more than today's? If, however, it is decided to cheapen domestic use by resort to industrial sales, should they be limited to the few uses ****314** for which gas has special values or extend also to those who use it only because it is cheaper than competitive fuels? FN47 And how much cheaper should industrial***658** gas sell than domestic gas, and how much advantage should it have over competitive fuels? If industrial gas is to contribute at all to lowering domestic rates, should it not be made to contribute the very maximum of which it is capable, that is, should not its price be the highest at which the desired volume of sales can be realized?

FN47 The Federal Power Commission has touched upon the problem of conservation in connection with an application for a certificate permitting construction of a 1500-mile pipeline from southern Texas to New York City and says: 'The Natural Gas Act as presently drafted does not enable the Commission to treat fully the serious implications of such a problem. The question should be raised as to whether the proposed use of natural gas would not result in displacing a less valuable fuel and create hardships in the industry already supplying the market, while at the same time rapidly depleting the country's natural-gas reserves. Although, for a period of perhaps 20 years, the natural gas could be so priced as to appear to offer an apparent saving in fuel costs, this would mean simply that social costs which must eventually be paid had been ignored.
'Careful study of the entire problem may lead to the conclusion that use of natural gas should be restricted by functions rather than by areas. Thus, it is especially adapted to space and water heating in urban homes and other buildings and to the various industrial heat processes which require concentration of heat, flexibility of control, and uniformity of results. Industrial uses to which it appears particularly adapted include the treating and annealing of metals, the operation of kilns in the ceramic, cement, and lime industries, the manufacture of glass in its various forms, and use as a raw material in the chemical industry. General use of natural gas under boilers for the production of steam is, however, under most circumstances of very questionable social economy.' Twentieth Annual Report of the Federal Power Commission (1940) 79.

If I were to answer I should say that the household rate should be the lowest that can be fixed under commercial conditions that will conserve the supply for that use. The lowest probable rate for that purpose is not likely to speed exhaustion much, for it still will be high enough to induce economy, and use for that purpose has more nearly reached the saturation point. On the other hand the demand for industrial gas at present rates already appears to be increasing. To lower further the industrial rate is merely further to subsidize industrial consumption and speed depletion. The impact of the flat reduction ***659** of rates ordered here admittedly will be to increase the industrial advantages of gas over competing fuels and to increase its use. I think this is not, and there is no finding by the Commission that it is, in the public interest.

There is no justification in this record for the present discrimination against domestic users of gas in favor of industrial users. It is one of the evils against which the Natural Gas Act was aimed by Congress and one of the evils complained of here by Cleveland and Akron. If

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Hope's revenues should be cut by some $3,600,000 the whole reduction is owing to domestic users. If it be considered wise to raise part of Hope's revenues by industrial purpose sales, the utmost possible revenue should be raised from the least consumption of gas. If competitive relationships to other fuels will permit, the industrial price should be substantially advanced, not for the benefit of the Company, but the increased revenues from the advance should be applied to reduce domestic rates. For in my opinion the 'public interest' requires that the great volume of gas now being put to uneconomic industrial use should either be saved for its more important future domestic use or the present domestic user should have the full benefit of its exchange value in reducing his present rates.

Of course the Commission's power directly to regulate does not extend to the fixing of rates at which the local company shall sell to consumers. Nor is such power required to accomplish the purpose. As already pointed out, the very contract the Commission is altering classifies the gas according to the purposes for which it is to be resold and provides differentials between the two classifications. It would only be necessary for the Commission to order ****315** that all gas supplied under paragraph (a) of Hope's contract with the East Ohio Company shall be ***660** at a stated price fixed to give to domestic service the entire reduction herein and any further reductions that may prove possible by increasing industrial rates. It might further provide that gas delivered under paragraph (b) of the contract for industrial purposes to those industrial customers Hope has approved in writing shall be at such other figure as might be found consistent with the public interest as herein defined. It is too late in the day to contend that the authority of a regulatory commission does not extend to a consideration of public interests which it may not directly regulate and a conditioning of its orders for their protection. Interstate Commerce Commission v. Railway Labor Executives Ass'n, 315 U.S. 373, 62 S.Ct. 717, 86 L.Ed. 904; United States v. Lowden, 308 U.S. 225, 60 S.Ct. 248, 84 L.Ed. 208.

Whether the Commission will assert its apparently broad statutory authorization over prices and discriminations is, of course, its own affair, not ours. It is entitled to its own notion of the 'public interest' and its judgment of policy must prevail. However, where there is ground for thinking that views of this Court may have constrained the Commission to accept the rate-base method of decision and a particular single formula as 'all important' for a rate base, it is appropriate to make clear the reasons why I, at least, would not be so understood. The Commission is free to face up realistically to the nature and peculiarity of the resources in its control, to foster their duration in fixing price, and to consider future interests in addition to those of investors and present consumers. If we return this case it may accept or decline the proffered freedom. This problem presents the Commission an unprecedented opportunity if it will boldly make sound economic considerations, instead of legal and accounting theories, the foundation of federal policy. I would return the case to the Commission and thereby be clearly quit of what now may appear to be some responsibility for perpetrating a shortsighted pattern of natural gas regulation.

U.S. 1944.
Federal Power Commission v. Hope Natural Gas Co.
51 P.U.R.(NS) 193, 320 U.S. 591, 64 S.Ct. 281, 88 L.Ed. 333

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43 S.Ct. 675
P.U.R. 1923D 11, 262 U.S. 679, 43 S.Ct. 675, 67 L.Ed. 1176
(Cite as: P.U.R. 1923D 11, 43 S.Ct. 675)

Supreme Court of the United States
BLUEFIELD WATERWORKS & IMPROVEMENT CO.
v.
PUBLIC SERVICE COMMISSION OF WEST VIRGINIA et al.
No. 256.

Argued January 22, 1923.
Decided June 11, 1923.

In Error to the Supreme Court of Appeals of West Virginia.

Proceedings by the Bluefield Waterworks & Improvement Company against the Public Service Commission of the State of West Virginia and others to suspend and set aside an order of the Commission fixing rates. From a judgment of the Supreme Court of West Virginia, dismissing the petition, and denying the relief (89 W. Va. 736, 110 S. E. 205), the Waterworks Company bring error. Reversed.

West Headnotes

Constitutional Law 92 298(1.5)

92 Constitutional Law
92XII Due Process of Law
92k298 Regulation of Charges and Prices
92k298(1.5) k. Public Utilities in General. Most Cited Cases
Rates which are not sufficient to yield a reasonable return on the value of the property used in public service at the time it is being so used to render the service are unjust, unreasonable, and confiscatory, and their enforcement deprives the public utility company of its property, in violation of the Fourteenth Amendment of the Constitution.

Constitutional Law 92 298(3)

92 Constitutional Law
92XII Due Process of Law
92k298 Regulation of Charges and Prices
92k298(3) k. Water and Irrigation Companies. Most Cited Cases
Under the due process clause of the Fourteenth Amendment of the Constitution, U.S.C.A., a waterworks company is entitled to the independent judgment of the court as to both law and facts, where the question is whether the rates fixed by a public service commission are confiscatory.

Waters and Water Courses 405 203(10)

405 Waters and Water Courses
405IX Public Water Supply
405IX(A) Domestic and Municipal Purposes
405k203 Water Rents and Other Charges
405k203(10) k. Reasonableness of Charges. Most Cited Cases
It was error for a state public service commission, in arriving at the value of the property used in public service, for the purpose of fixing the rates, to fail to give proper weight to the greatly increased cost of construction since the war.

Waters and Water Courses 405 203(10)

405 Waters and Water Courses
405IX Public Water Supply
405IX(A) Domestic and Municipal Purposes
405k203 Water Rents and Other Charges
405k203(10) k. Reasonableness of Charges. Most Cited Cases
A public utility is entitled to such rates as will permit it to earn a return on the value of the property which it employs for the convenience of the public equal to that generally being made at the same time and in the same general part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties, but it has no constitutional right to such profits as are realized or anticipated in highly profitable enterprises or speculative ventures.

Waters and Water Courses 405 203(10)

405 Waters and Water Courses
405IX Public Water Supply
405IX(A) Domestic and Municipal Purposes
405k203 Water Rents and Other Charges
405k203(10) k. Reasonableness

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of Charges. Most Cited Cases
Since the investors take into account the result of past operations as well as present rates in determining whether they will invest, a waterworks company which had been earning a low rate of returns through a long period up to the time of the inquiry is entitled to return of more than 6 per cent. on the value of its property used in the public service, in order to justly compensate it for the use of its property.

Federal Courts 170B 504.1

170B Federal Courts
170BVII Supreme Court
170BVII(E) Review of Decisions of State Courts
170Bk504 Nature of Decisions or Questions Involved
170Bk504.1 k. In General. Most Cited Cases
(Formerly 106k394(6))
A proceeding in a state court attacking an order of a public service commission fixing rates, on the ground that the rates were confiscatory and the order void under the federal Constitution, is one where there is drawn in question the validity of authority exercised under the state, on the ground of repugnancy to the federal Constitution, and therefore is reviewable by writ of error.

****675 *680** Messrs. Alfred G. Fox and Jos. M. Sanders, both of Bluefield, W. Va., for plaintiff in error.
Mr. Russell S. Ritz, of Bluefield, W. Va., for defendants in error.

***683** Mr. Justice BUTLER delivered the opinion of the Court.
Plaintiff in error is a corporation furnishing water to the city of Bluefield, W. Va., ****676** and its inhabitants. September 27, 1920, the Public Service Commission of the state, being authorized by statute to fix just and reasonable rates, made its order prescribing rates. In accordance with the laws of the state (section 16, c. 15-O, Code of West Virginia [sec. 651]), the company instituted proceedings in the Supreme Court of Appeals to suspend and set aside the order. The petition alleges that the order is repugnant to the Fourteenth Amendment, and deprives the company of its property without just compensation and without due process of law, and denies it equal protection of the laws. A final judgment was entered, denying the company relief and dismissing its petition. The case is here on writ of error.

[1] 1. The city moves to dismiss the writ of error for the reason, as it asserts, that there was not drawn in question the validity of a statute or an authority exercised under the state, on the ground of repugnancy to the federal Constitution.

The validity of the order prescribing the rates was directly challenged on constitutional grounds, and it was held valid by the highest court of the state. The prescribing of rates is a legislative act. The commission is an instrumentality of the state, exercising delegated powers. Its order is of the same force as would be a like enactment by the Legislature. If, as alleged, the prescribed rates are confiscatory, the order is void. Plaintiff in error is entitled to bring the case here on writ of error and to have that question decided by this court. The motion to dismiss will be denied. See ***684**Oklahoma Natural Gas Co. v. Russell, 261 U. S. 290, 43 Sup. Ct. 353, 67 L. Ed. 659, decided March 5, 1923, and cases cited; also Ohio Valley Co. v. Ben Avon Borough, 253 U. S. 287, 40 Sup. Ct. 527, 64 L. Ed. 908.

2. The commission fixed $460,000 as the amount on which the company is entitled to a return. It found that under existing rates, assuming some increase of business, gross earnings for 1921 would be $80,000 and operating expenses $53,000 leaving $27,000, the equivalent of 5.87 per cent., or 3.87 per cent. after deducting 2 per cent. allowed for depreciation. It held existing rates insufficient to the extent of 10,000. Its order allowed the company to add 16 per cent. to all bills, excepting those for public and private fire protection. The total of the bills so to be increased amounted to $64,000; that is, 80 per cent. of the revenue was authorized to be increased 16 per cent., equal to an increase of 12.8 per cent. on the total, amounting to $10,240.

As to value: The company claims that the value of the property is greatly in excess of $460,000. Reference to the evidence is necessary. There was submitted to the commission evidence of value which it summarized substantially as follows:

a. Estimate by company's engineer

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	on. basis of reproduction new, less. depreciation, at prewar prices.	$ 624,548 00
b.	Estimate by company's engineer on. basis of reproduction new, less. depreciation, at 1920 prices.	1,194,663 00
c.	Testimony of company's engineer. fixing present fair value for rate. making purposes.	900,000 00
d.	Estimate by commissioner's engineer on. basis of reproduction new, less. depreciation at 1915 prices, plus. additions since December 31, 1915, at. actual cost, excluding Bluefield. Valley waterworks, water rights,. and going value.	397,964 38
e.	Report of commission's statistician. showing investment cost less. depreciation.	365,445 13
f.	Commission's valuation, as fixed in. case No. 368 ($360,000), plus gross. additions to capital since made. ($92,520.53).	452,520 53

***685** It was shown that the prices prevailing in 1920 were nearly double those in 1915 and pre-war time. The company did not claim value as high as its estimate of cost of construction in 1920. Its valuation engineer testified that in his opinion the value of the property was $900,000-a figure between the cost of construction in 1920, less depreciation, and the cost of construction in 1915 and before the war, less depreciation.

The commission's application of the evidence may be stated briefly as follows:

As to 'a,' supra: The commission deducted $204,000 from the estimate (details printed in the margin), [FN1] leaving approximately $421,000, which it contrasted with the estimate of its own engineer, $397,964.38 (see 'd,' supra). It found that there should be included $25,000 for the Bluefield Valley waterworks plant in Virginia, 10 per cent. for going value, and $10,000 for working capital. If these be added to $421,000, there results $500,600. This may be compared with the commission's final figure, $460,000.

FN1

Difference in depreciation allowed.	$ 49,000
Preliminary organization and development. cost.	14,500
Bluefield Valley waterworks plant.	25,000
Water rights.	50,000
Excess overhead costs.	39,000
Paving over mains.	28,500
	$204,000

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***686** As to 'b' and 'c,' supra: These were given no weight by the commission in arriving at its final figure, $460,000. It said:

'Applicant's plant was originally constructed more than twenty years ago, and has been added to from time to time as the progress and development of the community required. For this reason, it would be unfair to its consumers to use as a basis for present fair value the abnormal prices prevailing during the recent war period; but, when, as in this case, a part of the plant has been constructed or added to during that period, in fairness to the applicant, consideration must be given to the cost of such expenditures made to meet the demands of the public.'

****677** As to 'd,' supra: The commission, taking $400,000 (round figures), added $25,000 for Bluefield Valley waterworks plant in Virginia, 10 per cent. for going value, and $10,000 for working capital, making $477,500. This may be compared with its final figure, $460,000.

As to 'e,' supra: The commission, on the report of its statistician, found gross investment to be $500,402.53. Its engineer, applying the straight line method, found 19 per cent. depreciation. It applied 81 per cent. to gross investment and added 10 per cent. for going value and $10,000 for working capital, producing $455,500. [FN2] This may be compared with its final figure, $460,000.

'The books of the company show a total gross investment, since its organization, of $407,882, and that there has been charged off for depreciation from year to year the total sum of $83,445, leaving a net investment of

FN2 As to 'e': $365,445.13 represents investment cost less depreciation. The gross investment was found to be $500,402.53, indicating a deduction on account of depreciation of $134,957.40, about 27 per cent., as against 19 per cent. found by the commission's engineer.

As to 'f,' supra: It is necessary briefly to explain how this figure, $452,520.53, was arrived at. Case No. 368 was a proceeding initiated by the application of the company for higher rates, April 24, 1915. The commission made a valuation as of January 1, 1915. There were presented two estimates of reproduction cost less depreciation, one by a valuation engineer engaged by the company, ***687** and the other by a valuation engineer engaged by the city, both 'using the same method.' An inventory made by the company's engineer was accepted as correct by the city and by the commission. The method 'was that generally employed by courts and commissions in arriving at the value of public utility properties under this method.' and in both estimates 'five year average unit prices' were applied. The estimate of the company's engineer was $540,000 and of the city's engineer, $392,000. The principal differences as given by the commission are shown in the margin. [FN3] The commission disregarded both estimates and arrived at $360,000. It held that the best basis of valuation was the net investment, i. e., the total cost of the property less depreciation. It said:

FN3

		Company Engineer.	City Engineer.
1.	Preliminary costs.	$14,455	$1,000
2.	Water rights.	50,000	Nothing
3.	Cutting pavements over. mains.	27,744	233
4.	Pipe lines from gravity. springs.	22,072	15,442
5.	Laying cast iron street. mains.	19,252	15,212
6.	Reproducing Ada springs.	18,558	13,027
7.	Superintendence and. engineering.	20,515	13,621
8.	General contingent cost.	16,415	5,448
		$189,011	$63,983

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$324,427. * * * From an examination of the books * * * it appears that the records of the company have been remarkably well kept and preserved. It therefore seems that, when a plant is developed under these conditions, the net investment, which, of course, means the total gross investment less depreciation, is the very best basis of valuation for rate making purposes and that the other methods above referred to should ***688** be used only when it is impossible to arrive at the true investment. Therefore, after making due allowance for capital necessary for the conduct of the business and considering the plant as a going concern, it is the opinion of the commission that the fair value for the purpose of determining reasonable and just rates in this case of the property of the applicant company, used by it in the public service of supplying water to the city of Bluefield and its citizens, is the sum of $360,000, which sum is hereby fixed and determined by the commission to be the fair present value for the said purpose of determining the reasonable and just rates in this case.'

In its report in No. 368, the commission did not indicate the amounts respectively allowed for going value or working capital. If 10 per cent. be added for the former, and $10,000 for the latter (as fixed by the commission in the present case), there is produced $366,870, to be compared with $360,000, found by the commission in its valuation as of January 1, 1915. To this it added $92,520.53, expended since, producing $452,520.53. This may be compared with its final figure, $460,000.

The state Supreme Court of Appeals holds that the valuing of the property of a public utility corporation and prescribing rates are purely legislative acts, not subject to judicial review, except in so far as may be necessary to determine whether such rates are void on constitutional or other grounds, and that findings of fact by the commission based on evidence to support them will not be reviewed by the court. City of Bluefield v. Waterworks, 81 W. Va. 201, 204, 94 S. E. 121; Coal & Coke Co. v. Public Service Commission, 84 W. Va. 662, 678, 100 S. E. 557, 7 A. L. R. 108; Charleston v. Public Service Commission, 86 W. Va. 536, 103 S. E. 673.

In this case (89 W. Va. 736, 738, 110 S. E. 205, 206) it said:
'From the written opinion of the commission we find that it ascertained the value of the petitioner's property for rate making [then quoting the commission] 'after ***689** maturely and carefully considering the various methods presented for the ascertainment of fair value and giving such weight as seems proper to every element involved and all the facts and circumstances disclosed by the record.''

[2] [3] The record clearly shows that the commission, in arriving at its final figure, did not accord proper, if any, weight to the greatly enhanced costs of construction in 1920 over those prevailing about 1915 and before the war, as established by uncontradicted ****678** evidence; and the company's detailed estimated cost of reproduction new, less depreciation, at 1920 prices, appears to have been wholly disregarded. This was erroneous. Missouri ex rel. Southwestern Bell Telephone Co. v. Public Service Commission of Missouri, 262 U. S. 276, 43 Sup. Ct. 544, 67 L. Ed. 981, decided May 21, 1923. Plaintiff in error is entitled under the due process clause of the Fourteenth Amendment to the independent judgment of the court as to both law and facts. Ohio Valley Co. v. Ben Avon Borough, 253 U. S. 287, 289, 40 Sup. Ct. 527, 64 L. Ed. 908, and cases cited.

We quote further from the court's opinion (89 W. Va. 739, 740, 110 S. E. 206):
'In our opinion the commission was justified by the law and by the facts in finding as a basis for rate making the sum of $460,000.00. * * * In our case of Coal & Coke Ry. Co. v. Conley, 67 W. Va. 129, it is said: 'It seems to be generally held that, in the absence of peculiar and extraordinary conditions, such as a more costly plant than the public service of the community requires, or the erection of a plant at an actual, though extravagant, cost, or the purchase of one at an exorbitant or inflated price, the actual amount of money invested is to be taken as the basis, and upon this a return must be allowed equivalent to that which is ordinarily received in the locality in which the business is done, upon capital invested in similar enterprises. In addition to this, consideration must be given to the nature of the investment, a higher rate ***690** being regarded as justified by the risk incident to a hazardous investment.'
'That the original cost considered in connection with the history and growth of the utility and the value of the services rendered constitute the principal elements to be considered in connection with rate making, seems to be supported by nearly all the authorities.'

[4] The question in the case is whether the rates prescribed in the commission's order are confiscatory and therefore beyond legislative power. Rates which are not sufficient to yield a reasonable return on the value of the property used at the time it is being used to render the service are unjust, unreasonable and confiscatory, and their enforcement deprives the public utility company of its property in violation of the Fourteenth Amendment. This is so well settled by numerous decisions of this court that citation of the cases is scarcely necessary:

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'What the company is entitled to ask is a fair return upon the value of that which it employs for the public convenience.' Smyth v. Ames (1898) 169 U. S. 467, 547, 18 Sup. Ct. 418, 434 (42 L. Ed. 819).
'There must be a fair return upon the reasonable value of the property at the time it is being used for the public. * * * And we concur with the court below in holding that the value of the property is to be determined as of the time when the inquiry is made regarding the rates. If the property, which legally enters into the consideration of the question of rates, has increased in value since it was acquired, the company is entitled to the benefit of such increase.' Willcox v. Consolidated Gas Co. (1909) 212 U. S. 19, 41, 52, 29 Sup. Ct. 192, 200 (53 L. Ed. 382, 15 Ann. Cas. 1034, 48 L. R. A. [N. S.] 1134).
'The ascertainment of that value is not controlled by artificial rules. It is not a matter of formulas, but there must be a reasonable judgment having its basis in a proper consideration of all relevant facts.' Minnesota Rate Cases (1913) 230 U. S. 352, 434, 33 Sup. Ct. 729, 754 (57 L. Ed. 1511, 48 L. R. A. [N. S.] 1151, Ann. Cas. 1916A, 18).
***691** 'And in order to ascertain that value, the original cost of construction, the amount expended in permanent improvements, the amount and market value of its bonds and stock, the present as compared with the original cost of construction, the probable earning capacity of the property under particular rates prescribed by statute, and the sum required to meet operating expenses, are all matters for consideration, and are to be given such weight as may be just and right in each case. We do not say that there may not be other matters to be regarded in estimating the value of the property.' Smyth v. Ames, 169 U. S., 546, 547, 18 Sup. Ct. 434, 42 L. Ed. 819.
'* * * The making of a just return for the use of the property involves the recognition of its fair value if it be more than its cost. The property is held in private ownership and it is that property, and not the original cost of it, of which the owner may not be deprived without due process of law.'

Minnesota Rate Cases, 230 U. S. 454, 33 Sup. Ct. 762, 57 L. Ed. 1511, 48 L. R. A. (N. S.) 1151, Ann. Cas. 1916A, 18.

In Missouri ex rel. Southwestern Bell Telephone Co., v. Public Service Commission of Missouri, supra, applying the principles of the cases above cited and others, this court said:
'Obviously, the commission undertook to value the property without according any weight to the greatly enhanced costs of material, labor, supplies, etc., over those prevailing in 1913, 1914, and 1916. As matter of common knowledge, these increases were large. Competent witnesses estimated them as 45 to 50 per centum. * * * It is impossible to ascertain what will amount to a fair return upon properties devoted to public service, without giving consideration to the cost of labor, supplies, etc., at the time the investigation is made. An honest and intelligent forecast of probable future values, made upon a view of all the relevant circumstances, is essential. If the highly important element of present costs is wholly disregarded, such a forecast becomes impossible. Estimates for to-morrow cannot ignore prices of to-day.'

[5] ***692** It is clear that the court also failed to give proper consideration to the higher cost of construction in 1920 over that in 1915 and before the war, and failed to give weight to cost of reproduction less depreciation on the basis of 1920 prices, or to the testimony of the company's valuation engineer, based on present and past costs of construction, that the property in his opinion, was worth $900,000. The final figure, $460,000, was arrived ****679** at substantially on the basis of actual cost, less depreciation, plus 10 per cent. for going value and $10,000 for working capital. This resulted in a valuation considerably and materially less than would have been reached by a fair and just consideration of all the facts. The valuation cannot be sustained. Other objections to the valuation need not be considered.

3. Rate of return: The state commission found that the company's net annual income should be approximately $37,000, in order to enable it to earn 8 per cent. for return and depreciation upon the value of its property as fixed by it. Deducting 2 per cent. for depreciation, there remains 6 per cent. on $460,000, amounting to $27,600 for return. This was approved by the state court.

[6] The company contends that the rate of return is too low and confiscatory. What annual rate will constitute just compensation depeds upon many circumstances, and must be determined by the exercise of a fair and enlightened judgment, having regard to all relevant facts. A public utility is entitled to such rates as will permit it to earn a return on the value of the property which it employs for the convenience of the public equal to that generally being made at the same time and in the same general part of the country on investments in other business undertakings which are attended by corresponding, risks and uncertainties; but it has no constitutional right to profits such as are realized or anticipated in ***693** highly profitable enterprises or speculative ventures. The return should be reasonably sufficient to assure confidence in the financial soundness of the utility and should be adequate, under efficient and economical management, to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its public duties. A

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rate of return may be reasonable at one time and become too high or too low by changes affecting opportunities for investment, the money market and business conditions generally.

In 1909, this court, in Willcox v. Consolidated Gas Co., 212 U. S. 19, 48-50, 29 Sup. Ct. 192, 53 L. Ed. 382, 15 Ann. Cas. 1034, 48 L. R. A. (N. S.) 1134, held that the question whether a rate yields such a return as not to be confiscatory depends upon circumstances, locality and risk, and that no proper rate can be established for all cases; and that, under the circumstances of that case, 6 per cent. was a fair return on the value of the property employed in supplying gas to the city of New York, and that a rate yielding that return was not confiscatory. In that case the investment was held to be safe, returns certain and risk reduced almost to a minimum-as nearly a safe and secure investment as could be imagined in regard to any private manufacturing enterprise.

In 1912, in Cedar Rapids Gas Co. v. Cedar Rapids, 223 U. S. 655, 670, 32 Sup. Ct. 389, 56 L. Ed. 594, this court declined to reverse the state court where the value of the plant considerably exceeded its cost, and the estimated return was over 6 per cent.

In 1915, in Des Moines Gas Co. v. Des Moines, 238 U. S. 153, 172, 35 Sup. Ct. 811, 59 L. Ed. 1244, this court declined to reverse the United States District Court in refusing an injunction upon the conclusion reached that a return of 6 per cent. per annum upon the value would not be confiscatory.

In 1919, this court in Lincoln Gas Co. v. Lincoln, 250 U. S. 256, 268, 39 Sup. Ct. 454, 458 (63 L. Ed. 968), declined on the facts of that case to approve a finding that no rate yielding as much as 6 per cent. ***694** on the invested capital could be regarded as confiscatory. Speaking for the court, Mr. Justice Pitney said:
'It is a matter of common knowledge that, owing principally to the World War, the costs of labor and supplies of every kind have greatly advanced since the ordinance was adopted, and largely since this cause was last heard in the court below. And it is equally well known that annual returns upon capital and enterprise the world over have materially increased, so that what would have been a proper rate of return for capital invested in gas plants and similar public utilities a few years ago furnishes no safe criterion for the present or for the future.'

In 1921, in Brush Electric Co. v. Galveston, the United States District Court held 8 per cent. a fair rate of return. FN4

FN4 This case was affirmed by this court June 4, 1923, 262 U. S. 443, 43 Sup. Ct. 606, 67 L. Ed. 1076.

In January, 1923, in City of Minneapolis v. Rand, the Circuit Court of Appeals of the Eighth Circuit (285 Fed. 818, 830) sustained, as against the attack of the city on the ground that it was excessive, 7 1/2 per cent., found by a special master and approved by the District Court as a fair and reasonable return on the capital investment-the value of the property.

[7] Investors take into account the result of past operations, especially in recent years, when determining the terms upon which they will invest in such an undertaking. Low, uncertain, or irregular income makes for low prices for the securities of the utility and higher rates of interest to be demanded by investors. The fact that the company may not insist as a matter of constitutional right that past losses be made up by rates to be applied in the present and future tends to weaken credit, and the fact that the utility is protected against being compelled to serve for confiscatory rates tends to support it. In ***695** this case the record shows that the rate of return has been low through a long period up to the time of the inquiry by the commission here involved. For example, the average rate of return on the total cost of the property from 1895 to 1915, inclusive, was less than 5 per cent.; from 1911 to 1915, inclusive, about 4.4 per cent., without allowance for depreciation. In 1919 the net operating income was approximately $24,700, leaving $15,500, approximately, or 3.4 per cent. on $460,000 fixed by the commission, after deducting 2 per cent. for depreciation. In 1920, the net operating income was approximately $25,465, leaving $16,265 for return, after allowing for depreciation. Under the facts and circumstances indicated by the record, we think that a rate of return of 6 per cent. upon the value of the property is substantially too low to constitute just compensation for the use of the property employed to render the service.

The judgment of the Supreme Court of Appeals of West Virginia is reversed.

Mr. Justice BRANDEIS concurs in the judgment of reversal, for the reasons stated by him in Missouri ex rel. Southwestern Bell Telephone Co. v. Public Service Commission of Missouri, supra.
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Bluefield Waterworks & Imp. Co. v. Public Service Commission of W. Va.
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