BEFORE THE

PUBLIC UTILITIES COMMISSION

OF THE STATE OF SOUTH DAKOTA

IN RE:	)	
	)	Docket No. NG11-___
NORTHWESTERN CORPORATION	)	
d/b/a NorthWestern Energy	)	

DIRECT TESTIMONY OF

WILLIAM E. AVERA

On Behalf of NorthWestern Energy

May 18, 2011

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DIRECT TESTIMONY OF WILLIAM E. AVERA
ON BEHALF OF NORTHWESTERN ENERGY

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. William E. Avera, 3907 Red River, Austin, Texas, 78751.

Q. IN WHAT CAPACITY ARE YOU EMPLOYED?

A. I am the President of FINCAP, Inc., a firm providing financial, economic, and policy consulting services to business and government.

A. Qualifications

Q. PLEASE DESCRIBE YOUR QUALIFICATIONS AND EXPERIENCE.

A. I received a B.A. degree with a major in economics from Emory University. After serving in the U.S. Navy, I entered the doctoral program in economics at the University of North Carolina at Chapel Hill. Upon receiving my Ph.D., I joined the faculty at the University of North Carolina and taught finance in the Graduate School of Business. I subsequently accepted a position at the University of Texas at Austin where I taught courses in financial management and investment analysis. I then went to work for International Paper Company in New York City as Manager of Financial Education, a position in which I had responsibility for all corporate education programs in finance, accounting, and economics.

In 1977, I joined the staff of the Public Utility Commission of Texas ("PUCT") as Director of the Economic Research Division. During my tenure at the PUCT, I managed a division responsible for financial

analysis, cost allocation and rate design, economic and financial research, and data processing systems, and I testified in cases on a variety of financial and economic issues. Since leaving the PUCT, I have been engaged as a consultant. I have participated in a wide range of assignments involving utility-related matters on behalf of utilities, industrial customers, municipalities, and regulatory commissions. I have previously testified before the Federal Energy Regulatory Commission ("FERC"), as well as the Federal Communications Commission, the Surface Transportation Board (and its predecessor, the Interstate Commerce Commission), the Canadian Radio-Television and Telecommunications Commission, and regulatory agencies, courts, and legislative committees in over 40 states, including the South Dakota Public Utilities Commission ("SDPUC" or the "Commission").

In 1995, I was appointed by the PUCT to the Synchronous Interconnection Committee to advise the Texas legislature on the costs and benefits of connecting Texas to the national electric transmission grid. In addition, I served as an outside director of Georgia System Operations Corporation, the system operator for electric cooperatives in Georgia.

I have served as Lecturer in the Finance Department at the University of Texas at Austin and taught in the evening graduate program at St. Edward's University for twenty years. In addition, I have lectured on economic and regulatory topics in programs sponsored by universities and industry groups. I have taught in hundreds of educational programs for

financial analysts in programs sponsored by the Association for Investment Management and Research, the Financial Analysts Review, and local financial analysts societies. These programs have been presented in Asia, Europe, and North America, including the Financial Analysts Seminar at Northwestern University. I hold the Chartered Financial Analyst (CFA®) designation and have served as Vice President for Membership of the Financial Management Association. I have also served on the Board of Directors of the North Carolina Society of Financial Analysts. I was elected Vice Chairman of the National Association of Regulatory Commissioners ("NARUC") Subcommittee on Economics and appointed to NARUC's Technical Subcommittee on the National Energy Act. I have also served as an officer of various other professional organizations and societies. A resume containing the details of my experience and qualifications is attached as Exhibit WEA-1.

B. Overview

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to present to the SDPUC my independent assessment of the fair rate of return on equity ("ROE") for the jurisdictional natural gas utility operations of NorthWestern Corporation d/b/a NorthWestern Energy ("NWE" or "the Company"). In addition, I also examined the reasonableness of the Company's requested capital structure, considering both the specific risks faced by NWE and other industry guidelines.

Q. PLEASE SUMMARIZE THE INFORMATION AND MATERIALS YOU RELIED ON TO SUPPORT THE OPINIONS AND CONCLUSIONS CONTAINED IN YOUR TESTIMONY.

A. To prepare my testimony, I used information from a variety of sources that would normally be relied upon by a person in my capacity. In connection with the present filing, I considered and relied upon corporate disclosures and management discussions, publicly available financial reports and filings, and other published information relating to NWE. I also reviewed information relating generally to capital market conditions and specifically to investor perceptions, requirements, and expectations for utilities. These sources, coupled with my experience in the fields of finance and utility regulation, have given me a working knowledge of the issues relevant to investors' required return for NWE, and they form the basis of my analyses and conclusions.

Q. WHAT IS THE PRACTICAL TEST OF THE REASONABLENESS OF THE ROE USED IN SETTING A UTILITY'S RATES?

A. The ROE compensates equity investors for the use of their capital to finance the plant and equipment necessary to provide utility service. Investors commit capital only if they expect to earn a return on their investment commensurate with returns available from alternative investments with comparable risks. To be consistent with sound regulatory economics and the standards set forth by the United States

Supreme Court in the *Bluefield*[1] and *Hope*[2] cases, a utility's allowed return on equity should be sufficient to (1) fairly compensate the utility's investors, (2) enable the utility to offer a return adequate to attract new capital on reasonable terms, and (3) maintain the utility's financial integrity.

Q. HOW IS YOUR TESTIMONY ORGANIZED?

A. I first reviewed the operations and finances of NWE, and the general conditions in the utility industry and the capital markets. With this as a background, I conducted various well-accepted quantitative analyses to estimate the current cost of equity, including alternative applications of the discounted cash flow ("DCF") model and the Capital Asset Pricing Model ("CAPM"), an equity risk premium approach based on allowed rates of return, as well as reference to expected earned rates of return for utilities. Based on the cost of equity estimates indicated by my analyses, NWE's ROE was evaluated taking into account the specific risks and potential challenges for its jurisdictional gas utility operations as well as other factors (*e.g.*, flotation costs) that are properly considered in setting a fair ROE for the Company.

C. Summary of Conclusions

Q. WHAT ARE YOUR FINDINGS REGARDING THE FAIR ROE FOR NWE?

A. Based on the results of my analyses and the economic requirements necessary to support continuous access to capital, I recommend an ROE for NWE from the middle of my 10.2 percent to 11.6 percent reasonable

[1] *Bluefield Water Works & Improvement Co. v. Pub. Serv. Comm'n*, 262 U.S. 679 (1923).
[2] Fed. Power Comm'n v. Hope Natural Gas Co., 320 U.S. 591 (1944).

range, or 10.9 percent. The bases for my conclusion are summarized below:

- In order to reflect the risks and prospects associated with NWE's jurisdictional utility operations, my analyses focused on a proxy group of other combination utilities with both gas and electric utility operations, as well as considering results for a reference group of natural gas utilities. Consistent with the fact that utilities must compete for capital with firms outside their own industry, I also referenced a proxy group of low-risk companies in the non-utility sector of the economy;
- Because investors' required return on equity is unobservable and no single method should be viewed in isolation, I applied both the DCF and CAPM methods, as well as the expected earnings approach, to estimate a fair ROE for NWE:
- Based on the results of these analyses, and giving less weight to extremes at the high and low ends of the range, I concluded that the cost of equity for the proxy groups of utilities and non-utility companies is in the 10.0 percent to 11.4 percent range, or 10.2 percent to 11.6 percent after incorporating a minimal adjustment to account for the impact of common equity flotation costs;
- My conclusion that a 10.9 percent ROE for NWE is a conservative estimate of investors' required return is also reinforced by the lack of a weather normalization adjustment mechanism ("WNA") outside of a rate case in South Dakota, and the fact that, unlike many other utilities, NWE does not benefit from a decoupling mechanism that provides recovery of fixed costs as customer usage changes; and,
- The reasonableness of a 10.9 percent ROE for NWE is also supported by the additional uncertainties associated with NWE's relatively small size, the Company's greater investment risks relative to other utilities, and the need to consider the expected upward trend in capital costs and support access to capital.

Q. WHAT OTHER EVIDENCE DID YOU CONSIDER IN EVALUATING YOUR ROE RECOMMENDATION IN THIS CASE?

A. My recommendation was reinforced by the following findings:

- Sensitivity to financial market and regulatory uncertainties has increased dramatically and investors recognize that constructive regulation is a key ingredient in supporting utility credit standing and financial integrity; and,

- Providing NWE with the opportunity to earn a return that reflects these realities is an essential ingredient to support the Company's financial position, which ultimately benefits customers by ensuring reliable service at lower long-run costs.

Q. WHAT IS YOUR CONCLUSION AS TO THE REASONABLENESS OF NWE'SCAPITAL STRUCTURE?

A. Based on my evaluation, I concluded that a common equity ratio of 56.1 percent represents a reasonable capitalization for NWE. This conclusion was based on the following findings:

- The common equity ratio implied by NWE's capital structure falls within the range of capitalizations maintained by the proxy groups of utilities based on data at year-end and near-term expectations;
- NWE's 56.1 percent common equity ratio is entirely consistent with the 55.1 percent average for the proxy group of gas utilities at year-end 2010. Similarly, NWE's requested equity ratio falls short of the 61.4 percent equity ratio based on Value Line's expectations for these utilities over the near-term; and,
- The additional uncertainties associated with NWE's relatively small size warrant a more conservative financial posture.

II. FUNDAMENTAL ANALYSES

Q. WHAT IS THE PURPOSE OF THIS SECTION?

A. As a predicate to subsequent quantitative analyses, this section briefly reviews the operations and finances of NWE. In addition, it examines the risks and prospects for the utility industry and conditions in the capital markets and the general economy. An understanding of the fundamental factors driving the risks and prospects of utilities is essential in developing an informed opinion of investors' expectations and requirements that are the basis of a fair ROE.

A. NorthWestern Energy

Q. BRIEFLY DESCRIBE NWE AND ITS UTILITY OPERATIONS.

A. Headquartered in Sioux Falls, South Dakota, NWE is engaged in providing regulated electric and natural gas utility service to approximately 665,000 customers in Montana, South Dakota and Nebraska. The Company engages in the generation, transmission, and distribution of electricity, as well as the purchase, transmission, distribution, and storage of natural gas. NWE serves 110 electric and 60 natural gas communities with approximately 43,750 natural gas and 60,800 electric customers in its South Dakota service territory. NorthWestern provides electric services to 337,600 customers in 187 communities in Montana while its natural gas business serves 181,300 customers in 105 communities. It also provides natural gas service to approximately 41,560 customers in four communities in Nebraska.

The Company's natural gas distribution system in South Dakota and Nebraska consists of approximately 2,300 miles of underground distribution lines. In addition, NWE is involved in the transmission of natural gas in Montana from production receipt points and storage facilities to distribution points and other nonaffiliated transmission systems. NWE's natural gas transmission system consists of more than 2,000 miles of pipeline, which vary in diameter from two inches to 20 inches, and serves more than 130 city gate stations, in addition to having interconnections with five major, nonaffiliated transmission systems. At year-end 2010,

NWE had total, Company-wide assets of $3.0 billion, with total revenues of approximately $1.1 billion. NWE's retail electric and natural gas operations are subject to the jurisdiction of the SDPUC, the Montana Public Service Commission, and the Nebraska Public Service Commission. While NWE has a gas cost tracking mechanism in place that allows it to pass-through changes in natural gas costs to customers, it currently does not have any regulatory mechanisms in South Dakota to adjust for the impact of abnormal weather on earnings, or for changes in retail loads related to energy efficiency or price elasticity outside of a rate case.

Q. DOES NWE ANTICIPATE THE NEED FOR ADDITIONAL CAPITAL IN THE FUTURE?

A. Yes. NWE will require capital in order to fund new investment in electric and natural gas utility facilities, including transmission, to meet customer growth, provide for necessary maintenance and replace its utility infrastructure. Maintenance capital expenditures for NWE's utility system are expected to total $680 million over the 2011-2015 period, not including other investments to replace infrastructure, expand transmission capacity, and respond to environmental mandates.

Q. WHAT CREDIT RATINGS HAVE BEEN ASSIGNED TO NWE?

A. NWE has been assigned a corporate credit rating of "BBB" by Standard & Poor's Corporation ("S&P") and a senior unsecured debt credit rating of "Baa1" from Moody's Investor Services, Inc. ("Moody's"). Meanwhile,

Fitch Ratings Ltd. ("Fitch") has assigned an issuer default rating of "BBB" to NWE.

A. Utility Industry

Q. HOW HAVE INVESTORS' RISK PERCEPTIONS FOR THE UTILITY INDUSTRY EVOLVED?

A. Implementation of structural change and related events caused investors to rethink their assessment of the relative risks associated with the utility industry. The past decade witnessed steady erosion in credit quality throughout the utility industry, both as a result of revised perceptions of the risks in the industry and the weakened finances of the utilities themselves.

Beginning in approximately 1980, the natural gas industry was buffeted by decreasing demand and prices, a natural gas glut, an ever-changing federal regulatory environment, and increased competition among participants and with other fuels. These developments spawned striking structural changes, not only within the pipeline segment of the industry, but for natural gas local distribution companies ("LDCs") as well, with both experiencing "bypass" as large commercial, industrial, and wholesale customers sought to acquire gas supplies at the lowest possible cost. Structural changes within the utility industry have forced LDCs and electric utilities to confront new complexities and risks entailed in actively contracting for economical and secure energy supplies. Coupled with an increasingly competitive market environment, these structural changes

have resulted in LDCs having greater business risk and operating leverage.

Q. IS THE POTENTIAL FOR ENERGY MARKET VOLATILITY AN ONGOING CONCERN FOR INVESTORS?

A. Yes. In recent years utilities and their customers have had to contend with dramatic fluctuations in gas costs due to ongoing price volatility in the spot markets, and investors recognize the potential for further turmoil in energy markets. Fitch has highlighted the challenges that fluctuations in commodity prices can have for utilities:

> From their September 2007 low of $5.29, spot natural gas prices as reported at Henry Hub rose 150% to $13.31 in early July 2008 and declined 57% to $5.68 per million British thermal unit (mmBtu) on Dec. 10, 2008. The sharp run-up and subsequent collapse of natural gas prices in 2008 is emblematic of the extreme price volatility that characterizes the commodity and is likely to persist in the future.[3]

While lower consumption brought about by the economic slowdown and higher production levels have contributed to a significant decline in gas costs, investors recognize the potential that such trends could quickly reverse. S&P observed that "short-term price volatility from numerous possibilities ... is always possible,"[4] while Moody's concluded that utilities remain exposed to fluctuations in energy prices, observing, "This view,

[3] Fitch Ratings, Ltd., "U.S. Utilities, Power and Gas 2009 Outlook," *Global Power North American Special Report* (Dec. 22, 2008).
[4] Standard & Poor's Corporation, "Top 10 Investor Questions: U.S. Regulated Electric Utilities," *RatingsDirect* (Jan. 22, 2010).

that commodity prices remain low, could easily be proved incorrect, due to the evidence of historical volatility."[5]

Besides discouraging potential customers from choosing natural gas, causing certain existing users to substitute alternative fuels, and leading to decreased customer usage, volatile natural gas prices have increased the risks of investing in natural gas distribution utilities and placed additional pressure on their bond ratings. Moody's echoed this sentiment, concluding that rising natural gas prices represent a challenge for LDCs because of reduced demand and margins.[6] As a result, a senior Fitch analyst concluded that investors "should exercise greater caution" when evaluating companies in the gas utility sector.[7]

Q. WHAT OTHER RISKS ARE FACED BY UTILITIES?

A. The rapid rise in utility rates that can result from higher wholesale energy prices has heightened investor concerns over the implications for regulatory uncertainty. S&P noted that, while timely cost recovery was paramount to maintaining credit quality in the utility sector, an "environment of rising customer tariffs, coupled with a sluggish economy, portend a difficult regulatory environment in coming years."[8]

Investors are also aware of the financial and regulatory pressures faced by utilities associated with the need to support significant capital

[5] Moody's Investors Service, "U.S. Electric Utilities: Uncertain Times Ahead; Strengthening Balance Sheets Now Would Protect Credit," *Special Comment* (Oct. 28, 2010).
[6] Moody's Investors Service, "North American Natural Gas Transmission & Distribution," *Industry Outlook* (Sep. 2007).
[7] Lapson, Ellen, "Rising Unit Costs & Credit Quality: Warning Signals," *Public Utilities Fortnightly* (Feb. 1, 2006).
[8] Standard & Poor's Corporation, "Top 10 U.S. Electric Utility Credit Issues For 2008 And Beyond," *RatingsDirect* (Jan. 28, 2008).

investments. S&P noted that cost increases and capital projects, along with uncertain load growth, were a significant challenge to the utility industry.[9] As Moody's observed:

> Utilities remain exposed to large, long-term capital investment challenges, volatile commodity prices and legal judgments that can wreak havoc on even the strongest liquidity profiles.[10]

Fitch echoed this assessment, concluding that a combination of high capital expenditures and relatively weak demand "will continue to pressure credit quality and require base rate increases in 2010 and beyond."[11] As Value Line recently observed:

> The economy remains weighed down by tight credit, a soft housing market, and high unemployment. The weakness in the housing sector has particularly affected this industry. The large inventory of unsold houses has limited the need for natural gas. This is particularly troubling for these utilities as we enter the peak heating season. Moreover, customer growth has declined, which continues to pressure revenues across this group. Additionally, more conservation consumer spending has impacted customer usage, which has hurt volumes. Lastly, bill collection has been difficult given high unemployment rates. Looking ahead, these factors will likely continue to play on these companies as the calendar turns to 2011.[12]

In addition to uncertainties over customer usage and growth, utilities such as NWE continue to face the same ongoing challenges and risks that have confronted them in the past, including those related to

[9] Standard & Poor's Corporation, "Industry Economic And Ratings Outlook," *RatingsDirect* (Feb. 2, 2010).
[10] Moody's Investors Service, "U.S. Electric Utilities Face Challenges Beyond Near-Term," *Industry Outlook* (January 2010).
[11] Fitch Ratings Ltd., "U.S. Utilities, Power, and Gas 2010 Outlook," *Global Power North America Special Report* (Dec. 4, 2009).
[12] The Value Line Investment Survey at 547 (Dec. 10, 2010).

inflation, weather, rate regulation, non-rate regulatory changes, tax law changes, environmental laws and regulations, operating hazards, and capital market changes, as well as extraordinary risks such as legal liabilities and natural disasters.

B. Impact of Capital Market Conditions

Q. WHAT ARE THE IMPLICATIONS OF RECENT CAPITAL MARKET CONDITIONS?

A. The deep financial and real estate crisis that the country experienced in late 2008, and continuing into 2009 led to unprecedented price fluctuations in the capital markets as investors dramatically revised their risk perceptions and required returns. As a result of investors' trepidation to commit capital, stock prices declined sharply while the yields on corporate bonds experienced a dramatic increase.

With respect to utilities specifically, as of March 2011, the Dow Jones Utility Average stock index remained approximately 20 percent below the previous high reached in May 2008. This prolonged sell-off in common stocks and sharp fluctuations in utility bond yields reflect the fact that the utility industry is not immune to the impact of financial market turmoil and the ongoing economic downturn. As the Edison Electric Institute ("EEI") noted in a letter to congressional representatives in September 2008 as the financial crisis intensified, capital market uncertainties have serious implications for utilities and their customers:

> In the wake of the continuing upheaval on Wall Street, capital markets are all but immobilized, and short-term

> borrowing costs to utilities have already increased substantially. If the financial crisis is not resolved quickly, financial pressures on utilities will intensify sharply, resulting in higher costs to our customers and, ultimately, could compromise service reliability.[13]

While conditions have improved significantly since the depths of the crisis, investors have nonetheless had to confront ongoing fluctuations in share prices and stress in the credit markets. As the Wall Street Journal noted in February 2010:

> Stocks pulled out of a 167-point hole with a late rally Friday, capping a wild week reminiscent of the most volatile days of the credit crisis. ... It was a return to the unusual relationships, or correlations, seen at major flash points over the past two years when investors fled risky assets and jumped into safe havens. This market behavior, which has reasserted itself repeatedly since the financial crisis began, suggests that investment decisions are still being driven more by government support and liquidity concerns than market fundamentals.[14]

In response to renewed capital market uncertainties initiated by unrest in the Middle East, the natural disaster in Japan, ongoing concerns over the European sovereign debt crisis, and questions over the sustainability of economic growth, investors have repeatedly fled to the safety of U.S. Treasury bonds, and stock prices have experienced renewed volatility.[15] The dramatic rise in the price of gold and other commodities also attests to investors' heightened concerns over

[13] *Letter to House of Representatives*, Thomas R. Kuhn, President, Edison Electric Institute (Sep. 24, 2008).
[14] Gongloff, Mark, "Stock Rebound Is a Crisis Flashback – Late Surge Recalls Market's Volatility at Peak of Credit Difficulties; Unusual Correlations," *Wall Street Journal* at B1 (Feb. 6, 2010).
[15] The Wall Street Journal recently reported that the Dow Jones Industrial Average experienced its largest drop since August 2010, which marked the fourth triple-digit move in less than two weeks. Tom Lauricella and Jonathan Cheng, "Dow Below 12000 on Mideast Worries – Troubles in Europe and China Add to Jitters," *Wall Street Journal* C1 (March. 11, 2011).

prospective challenges and risks, including the overhanging threat of inflation and renewed economic turmoil. With respect to utilities, Fitch observed that, "the outlook for the sector would be adversely affected by significantly higher inflation and interest rates."[16] Moody's recently concluded:

> Over the past few months, we have been reminded that global financial markets, which are still receiving extraordinary intervention benefits by sovereign governments, are exposed to turmoil. Access to the capital markets could therefore become intermittent, even for safer, more defensive sectors like the power industry.[17]

Uncertainties surrounding economic and capital market conditions heighten the risks faced by utilities, which, as described earlier, face a variety of operating and financial challenges.

Q. HOW DO INTEREST RATES ON LONG-TERM BONDS COMPARE WITH THOSE PROJECTED FOR THE NEXT FEW YEARS?

A. Table WEA-1 below compares current interest rates on 30-year Treasury bonds, triple-A rated corporate bonds, and double-A rated utility bonds with near-term projections from the Value Line Investment Survey ("Value Line"), IHS Global Insight, Blue Chip Financial Forecasts ("Blue Chip"), and the EIA:

[16] Fitch Ratings Ltd., "2011 Outlook: U.S. Utilities, Power, and Gas," *Global Power North America Special Report* (Dec. 20, 2010).
[17] Moody's Investors Service, "Regulation Provides Stability As Risks Mount," *Industry Outlook* (Jan. 19, 2011).

TABLE WEA-1
INTEREST RATE TRENDS

	Current (a)	2012	2013	2014	2015
30-Yr. Treasury					
Value Line (b)	4.4%	4.9%	5.2%	5.5%	6.0%
IHS Global Insight (c)	4.4%	4.7%	5.0%	5.1%	6.0%
Blue Chip (d)	4.4%	4.8%	5.2%	5.4%	5.5%
AAA Corporate					
Value Line (b)	5.0%	5.6%	6.0%	6.3%	6.5%
IHS Global Insight (c)	5.0%	5.2%	6.0%	6.2%	6.8%
Blue Chip (d)	5.0%	5.4%	5.8%	6.1%	6.3%
S&P (e)	5.0%	6.1%	5.7%	5.9%	6.3%
AA Utility					
IHS Global Insight (c)	5.2%	5.4%	6.3%	6.4%	7.2%
EIA (f)	5.2%	5.5%	6.4%	7.0%	7.4%

(a) Based on monthly average bond yields for the six-month period Oct. 2010 - Mar. 2011 reported at www.credittrends.moodys.com and http://www.federalreserve.gov/releases/h15/data.htm.
(b) The Value Line Investment Survey, Forecast for the U.S. Economy (Feb. 25, 2011).
(c) IHS Global Insight, *U.S. Economic Outlook* at 19 (Feb. 2011).
(d) *Blue Chip Financial Forecasts,* Vol. 29, No. 12 (Dec. 1, 2010).
(e) Standard & Poor's Corporation, "U.S. Economic Forecast: Pouring Water On Troubled Oil," *RatingsDirect* (Mar. 8, 2011).
(f) Energy Information Administration, *Annual Energy Outlook 2011 Early Release* (Dec. 16, 2010).

As evidenced above, there is a clear consensus that the cost of permanent capital will be higher in the 2012-2015 timeframe than it is currently. As a result, current cost of capital estimates are likely to understate investors' requirements at the time the outcome of this proceeding becomes effective and beyond.

Q. WHAT DO THESE EVENTS IMPLY WITH RESPECT TO THE ROE FOR NWE?

A. No one knows the future of our complex global economy. We know that the financial crisis had been building for a long time, and few predicted that the economy would fall as rapidly as it did, or that corporate bond yields would fluctuate as dramatically as they have. While conditions in

the economy and capital markets appear to have stabilized significantly since 2009, investors continue to react swiftly and negatively to any future signs of trouble in the financial system or economy. The fact remains that the utility industry requires significant new capital investment. Given the importance of reliable utility service, it would be unwise to ignore investors' increased sensitivity to risk and future capital market trends in evaluating a fair ROE in this case. Similarly, the Company's capital structure must also preserve the financial flexibility necessary to maintain access to capital even during times of unfavorable market conditions.

III. CAPITAL MARKET ESTIMATES

Q. WHAT IS THE PURPOSE OF THIS SECTION?

A. In this section, I develop capital market estimates of the cost of common equity. First, I address the concept of the cost of common equity, along with the risk-return tradeoff principle fundamental to capital markets. Next, I describe DCF, CAPM, and risk premium analyses conducted to estimate the cost of common equity for benchmark groups of comparable risk firms and evaluate expected earned rates of return for utilities. Finally, I examine flotation costs, which are properly considered in evaluating a fair ROE.

A. Economic Standards

Q. WHAT ROLE DOES THE RETURN ON COMMON EQUITY PLAY IN A UTILITY'S RATES?

A. The return on common equity is the cost of inducing and retaining investment in the utility's physical plant and assets. This investment is necessary to finance the asset base needed to provide utility service. Competition for investor funds is intense and investors are free to invest their funds wherever they choose. Investors will commit money to a particular investment only if they expect it to produce a return commensurate with those from other investments with comparable risks.

Q. WHAT FUNDAMENTAL ECONOMIC PRINCIPLE UNDERLIES THE COST OF EQUITY CONCEPT?

A. The fundamental economic principle underlying the cost of equity concept is the notion that investors are risk averse. In capital markets where relatively risk-free assets are available (*e.g.*, U.S. Treasury securities), investors can be induced to hold riskier assets only if they are offered a premium, or additional return, above the rate of return on a risk-free asset. Because all assets compete with each other for investor funds, riskier assets must yield a higher expected rate of return than safer assets to induce investors to invest and hold them.

Given this risk-return tradeoff, the required rate of return (k) from an asset (i) can generally be expressed as:

$$k_i = R_f + RP_i$$

where: R_f = Risk-free rate of return, and
RP_i = Risk premium required to hold riskier asset i.

Thus, the required rate of return for a particular asset at any time is a function of: (1) the yield on risk-free assets, and (2) the asset's relative risk, with investors demanding correspondingly larger risk premiums for bearing greater risk.

Q. IS THERE EVIDENCE THAT THE RISK-RETURN TRADEOFF PRINCIPLE ACTUALLY OPERATES IN THE CAPITAL MARKETS?

A. Yes. The risk-return tradeoff can be readily documented in segments of the capital markets where required rates of return can be directly inferred from market data and where generally accepted measures of risk exist. Bond yields, for example, reflect investors' expected rates of return, and bond ratings measure the risk of individual bond issues. The observed yields on government securities, which are considered free of default risk, and bonds of various rating categories demonstrate that the risk-return tradeoff does, in fact, exist in the capital markets.

Q. DOES THE RISK-RETURN TRADEOFF OBSERVED WITH FIXED INCOME SECURITIES EXTEND TO COMMON STOCKS AND OTHER ASSETS?

A. It is generally accepted that the risk-return tradeoff evidenced with long-term debt extends to all assets. Documenting the risk-return tradeoff for assets other than fixed income securities, however, is complicated by two factors. First, there is no standard measure of risk applicable to all assets.

Second, for most assets – including common stock – required rates of return cannot be directly observed. Yet there is every reason to believe that investors exhibit risk aversion in deciding whether or not to hold common stocks and other assets, just as when choosing among fixed-income securities.

Q. IS THIS RISK-RETURN TRADEOFF LIMITED TO DIFFERENCES BETWEEN FIRMS?

A. No. The risk-return tradeoff principle applies not only to investments in different firms, but also to different securities issued by the same firm. The securities issued by a utility vary considerably in risk because they have different characteristics and priorities. Long-term debt is senior among all capital in its claim on a utility's net revenues and is, therefore, the least risky. The last investors in line are common shareholders. They receive only the net revenues, if any, remaining after all other claimants have been paid. As a result, the rate of return that investors require from a utility's common stock, the most junior and riskiest of its securities, must be considerably higher than the yield offered by the utility's senior, long-term debt.

Q. WHAT DOES THE ABOVE DISCUSSION IMPLY WITH RESPECT TO ESTIMATING THE COST OF COMMON EQUITY FOR A UTILITY?

A. Although the cost of common equity cannot be observed directly, it is a function of the returns available from other investment alternatives and the risks to which the equity capital is exposed. Because it is not readily

observable, the cost of common equity for a particular utility must be estimated by analyzing information about capital market conditions generally, assessing the relative risks of the utility specifically, and employing various quantitative methods that focus on investors' required rates of return. These various quantitative methods typically attempt to infer investors' required rates of return from stock prices, interest rates, or other capital market data.

Q. DID YOU RELY ON A SINGLE METHOD TO ESTIMATE THE COST OF COMMON EQUITY FOR NWE?

A. No. In my opinion, no single method or model should be relied on by itself to determine a utility's cost of common equity because no single approach can be regarded as definitive. Therefore, I applied both the DCF and CAPM methods to estimate the cost of common equity, and considered the results of the risk premium and expected earnings approaches. In my opinion, comparing estimates produced by one method with those produced by other approaches ensures that the estimates of the cost of common equity pass fundamental tests of reasonableness and economic logic.

B. Comparable Risk Proxy Groups

Q. HOW DID YOU IMPLEMENT THESE QUANTITATIVE METHODS TO ESTIMATE THE COST OF COMMON EQUITY FOR NWE?

A. Application of the DCF model and other quantitative methods to estimate the cost of common equity requires observable capital market data, such

as stock prices. Moreover, even for a firm with publicly traded stock, the cost of common equity can only be estimated. As a result, applying quantitative models using observable market data only produces an estimate that inherently includes some degree of observation error. Thus, the accepted approach to increase confidence in the results is to apply the DCF model and other quantitative methods to a proxy group of publicly traded companies that investors regard as risk-comparable.

Q. WHAT SPECIFIC PROXY GROUPS OF UTILITIES DID YOU RELY ON FOR YOUR ANALYSIS?

A. Because NWE is an integrated gas and electric utility, with the Company's electric operations accounting for approximately 70 percent of total revenues, I examined quantitative estimates of investors' required rate of return for a proxy group of combination gas and electric utilities. In evaluating NWE, investors consider the operations of the entire company in determining the return they require to invest in NWE's common stock. As a result, utilities engaged in both gas and electric utility operations provide a closer proxy to NWE than gas utilities because investors are likely to regard them as facing similar market conditions and having risks and prospects more comparable to the Company.

Accordingly, my analyses focused on those utilities followed by Value Line with: (1) both gas and electric utility operations, and (2) S&P corporate credit ratings of "BBB-", "BBB", or "BBB+". In addition, I excluded one firm (Northeast Utilities) that otherwise would have been in

the proxy group, but is not appropriate for inclusion because it is involved in a major merger. These criteria resulted in a proxy group composed of 22 companies, which I will refer to as the "Combination Utility Proxy Group."

In addition, my analyses also considered a reference group of twelve publicly traded firms included by Value Line in their Natural Gas Utility industry group. I refer to this group as the "Gas Utility Proxy Group".

Q. WHAT OTHER PROXY GROUP DID YOU INCLUDE IN EVALUATING A FAIR ROE FOR NWE?

A. Under the regulatory standards established by *Hope* and *Bluefield*, the salient criterion in establishing a meaningful benchmark to evaluate a fair ROE is relative risk, not the particular business activity or degree of regulation. With regulation taking the place of competitive market forces, required returns for utilities should be in line with those of non-utility firms of comparable risk operating under the constraints of free competition. Consistent with this accepted regulatory standard, I also applied the DCF model to a reference group of comparable risk companies in the non-utility sectors of the economy. I refer to this group as the "Non-Utility Proxy Group".

Q. DO UTILITIES HAVE TO COMPETE WITH NON-REGULATED FIRMS FOR CAPITAL?

A. Yes. The cost of capital is an opportunity cost based on the returns that investors could realize by putting their money in other alternatives.

Clearly, the total capital invested in utility stocks is only the tip of the iceberg of total common stock investment, and there are a plethora of other enterprises available to investors beyond those in the utility industry. Utilities must compete for capital, not just against firms in their own industry, but with other investment opportunities of comparable risk.

Q. IS IT CONSISTENT WITH THE *BLUEFIELD* AND *HOPE* CASES TO CONSIDER REQUIRED RETURNS FOR NON-UTILITY COMPANIES?

A. Yes. Returns in the competitive sector of the economy form the very underpinning for utility ROEs because regulation purports to serve as a substitute for the actions of competitive markets. The Supreme Court has recognized that it is the degree of risk, not the nature of the business, which is relevant in evaluating an allowed ROE for a utility. The *Bluefield* case refers to "business undertakings attended with comparable risks and uncertainties." It does not restrict consideration to other utilities. Similarly, the *Hope* case states:

> By that standard the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks.[18]

As in the *Bluefield* decision, there is nothing to restrict "other enterprises" solely to the utility industry.

Indeed, in teaching regulatory policy I usually observe that in the early applications of the comparable earnings approach, utilities were explicitly eliminated due to a concern about circularity. In other words,

[18] *Federal Power Comm'n v. Hope Natural Gas Co.* (320 U.S. 391, 1944).

soon after the *Hope* decision regulatory commissions did not want to get involved in circular logic by looking to the returns of utilities that were established by the same or similar regulatory commissions in the same geographic region. To avoid circularity, regulators looked only to the returns of non-utility companies.

Q. DOES CONSIDERATION OF THE RESULTS FOR THE NON-UTILITY PROXY GROUP MAKE THE ESTIMATION OF THE COST OF EQUITY USING THE DCF MODEL MORE RELIABLE?

A. Yes. The estimates of growth from the DCF model depend on analysts' forecasts. It is possible for utility growth rates to be distorted by short-term trends in the industry or the industry falling into favor or disfavor by analysts. The result of such distortions would be to bias the DCF estimates for utilities. For example, Value Line recently observed that near-term growth rates understate the longer-term expectations for gas utilities:

> Natural Gas Utility stocks have fallen near the bottom of our Industry spectrum for Timeliness. Accordingly, short-term investors would probably do best to find a group with better prospects over the coming six to 12 months. Longer-term, we expect these businesses to rebound. An improved economic environment, coupled with stronger pricing, should boost results across this sector over the coming years.[19]

Because the Non-Utility Proxy Group includes low risk companies from many industries, it diversifies away any distortion that may be caused by the ebb and flow of enthusiasm for a particular sector.

[19] The Value Line Investment Survey at 445 (Mar. 12, 2010).

Q. WHAT CRITERIA DID YOU APPLY TO DEVELOP THE NON-UTILITY PROXY GROUP?

A. My comparable risk proxy group was composed of those U.S. companies followed by Value Line that: 1) pay common dividends; 2) have a Safety Rank of "1"; 3) have a Financial Strength Rating of "B++" or greater; 4) have a beta of 0.85 or less; and, 5) have investment grade credit ratings from S&P.

Q. DO THESE CRITERIA PROVIDE OBJECTIVE EVIDENCE TO EVALUATE INVESTORS' RISK PERCEPTIONS?

A. Yes. Credit ratings are assigned by independent rating agencies for the purpose of providing investors with a broad assessment of the creditworthiness of a firm. Ratings generally extend from triple-A (the highest) to D (in default). Other symbols (*e.g.*, "A+") are used to show relative standing within a category. Because the rating agencies' evaluation includes virtually all of the factors normally considered important in assessing a firm's relative credit standing, corporate credit ratings provide a broad, objective measure of overall investment risk that is readily available to investors. Widely cited in the investment community and referenced by investors, credit ratings are also frequently used as a primary risk indicator in establishing proxy groups to estimate the cost of common equity.

While credit ratings provide the most widely referenced benchmark for investment risks, other quality rankings published by investment

advisory services also provide relative assessments of risks that are considered by investors in forming their expectations for common stocks. Value Line's primary risk indicator is its Safety Rank, which ranges from "1" (Safest) to "5" (Riskiest). This overall risk measure is intended to capture the total risk of a stock, and incorporates elements of stock price stability and financial strength. Given that Value Line is perhaps the most widely available source of investment advisory information, its Safety Rank provides useful guidance regarding the risk perceptions of investors.

The Financial Strength Rating is designed as a guide to overall financial strength and creditworthiness, with the key inputs including financial leverage, business volatility measures, and company size. Value Line's Financial Strength Ratings range from "A++" (strongest) down to "C" (weakest) in nine steps. Finally, Value Line's beta measures the volatility of a security's price relative to the market as a whole. A stock that tends to respond less to market movements has a beta less than 1.00, while stocks that tend to move more than the market have betas greater than 1.00.

Q. HOW DO THE OVERALL RISKS OF YOUR PROXY GROUPS COMPARE WITH NWE?

A. Table WEA-2 below compares the Gas Utility Proxy Group, the Combination Utility Proxy Group and Non-Utility Proxy Group with NWE across four key indicia of investment risk:[20]

[20] Value Line does not publish a Financial Strength Rating for NWE.

TABLE WEA-2
COMPARISON OF RISK INDICATORS

	S&P Credit Rating	Value Line Safety Rank	Value Line Financial Strength	Value Line Beta
Combination Utility Group	BBB	3	B++	0.75
Gas Utility Group	A-	2	B++	0.68
Non-Utility Group	A	1	A+	0.70
NWE	BBB	2	--	0.70

Q. DOES THIS COMPARISON INDICATE THAT INVESTORS WOULD VIEW THE FIRMS IN YOUR PROXY GROUPS AS RISK-COMPARABLE TO NWE?

A. Yes. As discussed earlier, NWE is rated "BBB" by S&P, which is identical to the average corporate credit rating for the utilities in the Combination Utility Proxy Group, with the single-A rating for the Gas Utility Proxy Group indicating less risk than for NWE. Meanwhile, the average Value Line Safety Rank and beta values for the two proxy groups of utilities bracket NWE. Considered together, a comparison of these objective measures, which consider of a broad spectrum of risks, including financial and business position, relative size, and exposure to company specific factors, indicates that investors would likely conclude that the overall investment risks for NWE are comparable to those of the firms in the proxy groups of utilities.

With respect to the Non-Utility Proxy Group, its average credit ratings and Safety Rank suggest less risk than for NWE, with its 0.70 average beta indicating identical risk. While the impact of differences in

regulation is reflected in objective risk measures, my analyses conservatively focus on a lower-risk group of non-utility firms.

C. Discounted Cash Flow Analyses

Q. HOW IS THE DCF MODEL USED TO ESTIMATE THE COST OF COMMON EQUITY?

A. DCF models attempt to replicate the market valuation process that sets the price investors are willing to pay for a share of a company's stock. The model rests on the assumption that investors evaluate the risks and expected rates of return from all securities in the capital markets. Given these expectations, the price of each stock is adjusted by the market until investors are adequately compensated for the risks they bear. Therefore, we can look to the market to determine what investors believe a share of common stock is worth. By estimating the cash flows investors expect to receive from the stock in the way of future dividends and capital gains, we can calculate their required rate of return. In other words, the cash flows that investors expect from a stock are estimated, and given its current market price, we can "back-into" the discount rate, or cost of common equity, that investors implicitly used in bidding the stock to that price. Notationally, the general form of the DCF model is as follows:

$$P_0 = \frac{D_1}{(1+k_e)^1} + \frac{D_2}{(1+k_e)^2} + \cdots + \frac{D_t}{(1+k_e)^t} + \frac{P_t}{(1+k_e)^t}$$

where: P_0 = Current price per share;
P_t = Expected future price per share in period t;
D_t = Expected dividend per share in period t;
k_e = Cost of common equity.

That is, the cost of common equity is the discount rate that will equate the current price of a share of stock with the present value of all expected cash flows from the stock.

Q. WHAT FORM OF THE DCF MODEL IS CUSTOMARILY USED TO ESTIMATE THE COST OF COMMON EQUITY IN RATE CASES?

A. Rather than developing annual estimates of cash flows into perpetuity, the DCF model can be simplified to a "constant growth" form:[21]

$$P_0 = \frac{D_1}{k_e - g}$$

where: g = Investors' long-term growth expectations.

The cost of common equity (k_e) can be isolated by rearranging terms within the equation:

$$k_e = \frac{D_1}{P_0} + g$$

This constant growth form of the DCF model recognizes that the rate of return to stockholders consists of two parts: 1) dividend yield (D_1/P_0); and, 2) growth (g). In other words, investors expect to receive a portion of their total return in the form of current dividends and the remainder through price appreciation.

[21] The constant growth DCF model is dependent on a number of strict assumptions, which in practice are never met. These include a constant growth rate for both dividends and earnings; a stable dividend payout ratio; the discount rate exceeds the growth rate; a constant growth rate for book value and price; a constant earned rate of return on book value; no sales of stock at a price above or below book value; a constant price-earnings ratio; a constant discount rate (*i.e.*, no changes in risk or interest rate levels and a flat yield curve); and all of the above extend to infinity.

Q. WHAT FORM OF THE DCF MODEL DID YOU USE?

A. I applied the constant growth DCF model to estimate the cost of common equity for NWE, which is the form of the model most commonly relied on to establish the cost of common equity for traditional regulated utilities and the method most often referenced by regulators.

Q. HOW IS THE CONSTANT GROWTH FORM OF THE DCF MODEL TYPICALLY USED TO ESTIMATE THE COST OF COMMON EQUITY?

A. The first step in implementing the constant growth DCF model is to determine the expected dividend yield (D_1/P_0) for the firm in question. This is usually calculated based on an estimate of dividends to be paid in the coming year divided by the current price of the stock. The second, and more controversial, step is to estimate investors' long-term growth expectations (g) for the firm. The final step is to sum the firm's dividend yield and estimated growth rate to arrive at an estimate of its cost of common equity.

Q. HOW WAS THE DIVIDEND YIELD FOR THE COMBINATION UTILITY PROXY GROUP DETERMINED?

A. Estimates of dividends to be paid by each of these utilities over the next twelve months, obtained from Value Line, served as D_1. This annual dividend was then divided by the corresponding stock price for each utility to arrive at the expected dividend yield. The expected dividends, stock prices, and resulting dividend yields for the firms in the Combination Utility Proxy Group are presented on Exhibit WEA-2. As shown there, dividend

yields for this group of gas and electric utilities ranged from 2.6 percent to 5.7 percent.

Q. WHAT IS THE NEXT STEP IN APPLYING THE CONSTANT GROWTH DCF MODEL?

A. The next step is to evaluate long-term growth expectations, or "*g*", for the firm in question. In constant growth DCF theory, earnings, dividends, book value, and market price are all assumed to grow in lockstep, and the growth horizon of the DCF model is infinite. But implementation of the DCF model is more than just a theoretical exercise; it is an attempt to replicate the mechanism investors used to arrive at observable stock prices. A wide variety of techniques can be used to derive growth rates, but the only "*g*" that matters in applying the DCF model is the value that investors expect.

Q. ARE HISTORICAL GROWTH RATES LIKELY TO BE REPRESENTATIVE OF INVESTORS' EXPECTATIONS FOR UTILITIES?

A. No. If past trends in earnings, dividends, and book value are to be representative of investors' expectations for the future, then the historical conditions giving rise to these growth rates should be expected to continue. That is clearly not the case for utilities, where structural and industry changes have led to declining dividends, earnings pressure, and, in many cases, significant write-offs. While these conditions serve to distort historical growth measures, they are not representative of long-term growth for the utility industry or the expectations that investors have

incorporated into current market prices. As a result, historical growth measures for utilities do not currently meet the requirements of the DCF model.

Q. WHAT ARE INVESTORS MOST LIKELY TO CONSIDER IN DEVELOPING THEIR LONG-TERM GROWTH EXPECTATIONS?

A. While the DCF model is technically concerned with growth in dividend cash flows, implementation of this DCF model is solely concerned with replicating the forward-looking evaluation of real-world investors. In the case of utilities, dividend growth rates are not likely to provide a meaningful guide to investors' current growth expectations. This is because utilities have significantly altered their dividend policies in response to more accentuated business risks in the industry, with the payout ratio for utilities falling from approximately 75 percent historically to on the order of 60 percent.[22] As a result of this trend towards a more conservative payout ratio, dividend growth in the utility industry has remained largely stagnant as utilities conserve financial resources to provide a hedge against heightened uncertainties.

As payout ratios for firms in the utility industry trended downward, investors' focus has increasingly shifted from dividends to earnings as a measure of long-term growth. Future trends in earnings, which provide the source for future dividends and ultimately support share prices, play a pivotal role in determining investors' long-term growth expectations. The importance of earnings in evaluating investors' expectations and

[22] *See, e.g.,* The Value Line Investment Survey (Mar. 29, 1996 at 472, Mar. 11, 2011 at 546).

requirements is well accepted in the investment community. As noted in *Finding Reality in Reported Earnings* published by the Association for Investment Management and Research:

> [E]arnings, presumably, are the basis for the investment benefits that we all seek. "Healthy earnings equal healthy investment benefits" seems a logical equation, but earnings are also a scorecard by which we compare companies, a filter through which we assess management, and a crystal ball in which we try to foretell future performance.[23]

Value Line's near-term projections and its Timeliness Rank, which is the principal investment rating assigned to each individual stock, are also based primarily on various quantitative analyses of earnings. As Value Line explained:

> The future earnings rank accounts for 65% in the determination of relative price change in the future; the other two variables (current earnings rank and current price rank) explain 35%.[24]

The fact that investment advisory services focus primarily on growth in earnings indicates that the investment community regards this as a superior indicator of future long-term growth. Indeed, "A Study of Financial Analysts: Practice and Theory," published in the *Financial Analysts Journal*, reported the results of a survey conducted to determine what analytical techniques investment analysts actually use.[25] Respondents were asked to rank the relative importance of earnings, dividends, cash flow, and book value in analyzing securities. Of the 297

[23] Association for Investment Management and Research, "Finding Reality in Reported Earnings: An Overview" at 1 (Dec. 4, 1996).
[24] The Value Line Investment Survey, *Subscriber's Guide* at 53.
[25] Block, Stanley B., "A Study of Financial Analysts: Practice and Theory", *Financial Analysts Journal* (July/August 1999).

analysts that responded, only 3 ranked dividends first while 276 ranked it last. The article concluded:

> Earnings and cash flow are considered far more important than book value and dividends.[26]

In 2007, the *Financial Analysts Journal* reported the results of a study of the relationship between valuations based on alternative multiples and actual market prices, which concluded, "In all cases studied, earnings dominated operating cash flows and dividends."[27]

Q. DO THE GROWTH RATE PROJECTIONS OF SECURITY ANALYSTS CONSIDER HISTORICAL TRENDS?

A. Yes. Professional security analysts study historical trends extensively in developing their projections of future earnings. Hence, to the extent there is any useful information in historical patterns, that information is incorporated into analysts' growth forecasts.

Q. WHAT ARE SECURITY ANALYSTS CURRENTLY PROJECTING IN THE WAY OF GROWTH FOR THE FIRMS IN THE COMBINATION UTILITY PROXY GROUP?

A. The earnings growth projections for each of the firms in the Combination Utility Proxy Group reported by Value Line, Thomson Reuters ("IBES"), and Zacks Investment Research ("Zacks") are displayed on Exhibit WEA-2.[28]

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[26] *Id.* at 88.
[27] Liu, Jing, Nissim, Doron, & Thomas, Jacob, "Is Cash Flow King in Valuations?," *Financial Analysts Journal*, Vol. 63, No. 2 at 56 (March/April 2007).
[28] Formerly I/B/E/S International, Inc., IBES growth rates are now compiled and published by Thomson Reuters.

Q. SOME ARGUE THAT ANALYSTS' ASSESSMENTS OF GROWTH RATES ARE BIASED. DO YOU BELIEVE THESE PROJECTIONS ARE INAPPROPRIATE FOR ESTIMATING INVESTORS' REQUIRED RETURN USING THE DCF MODEL?

A. No. In applying the DCF model to estimate the cost of common equity, the only relevant growth rate is the forward-looking expectations of investors that are captured in current stock prices. Investors, just like securities analysts and others in the investment community, do not know how the future will actually turn out. They can only make investment decisions based on their best estimate of what the future holds in the way of long-term growth for a particular stock, and securities prices are constantly adjusting to reflect their assessment of available information.

Any claims that analysts' estimates are not relied upon by investors are illogical given the reality of a competitive market for investment advice. If financial analysts' forecasts do not add value to investors' decision making, then it is irrational for investors to pay for these estimates. Similarly, those financial analysts who fail to provide reliable forecasts will lose out in competitive markets relative to those analysts whose forecasts investors find more credible. The reality that analyst estimates are routinely referenced in the financial media and in investment advisory publications (e.g., Value Line) implies that investors use them as a basis for their expectations.

The continued success of investment services such as Thompson Reuters and Value Line, and the fact that projected growth rates from such sources are widely referenced, provides strong evidence that investors give considerable weight to analysts' earnings projections in forming their expectations for future growth. While the projections of securities analysts may be proven optimistic or pessimistic in hindsight, this is irrelevant in assessing the expected growth that investors have incorporated into current stock prices, and any bias in analysts' forecasts – whether pessimistic or optimistic – is irrelevant if investors share analysts' views. Earnings growth projections of security analysts provide the most frequently referenced guide to investors' views and are widely accepted in applying the DCF model. As explained in *New Regulatory Finance*:

> Because of the dominance of institutional investors and their influence on individual investors, analysts' forecasts of long-run growth rates provide a sound basis for estimating required returns. Financial analysts exert a strong influence on the expectations of many investors who do not possess the resources to make their own forecasts, that is, they are a cause of *g* [growth]. The accuracy of these forecasts in the sense of whether they turn out to be correct is not an issue here, as long as they reflect widely held expectations.[29]

Q. HOW ELSE ARE INVESTORS' EXPECTATIONS OF FUTURE LONG-TERM GROWTH PROSPECTS OFTEN ESTIMATED WHEN APPLYING THE CONSTANT GROWTH DCF MODEL?

A. In constant growth theory, growth in book equity will be equal to the product of the earnings retention ratio (one minus the dividend payout

[29] Morin, Roger A., "New Regulatory Finance," *Public Utilities Reports, Inc.* at 298 (2006).

ratio) and the earned rate of return on book equity. Furthermore, if the earned rate of return and the payout ratio are constant over time, growth in earnings and dividends will be equal to growth in book value. Despite the fact that these conditions are seldom, if ever, met in practice, this "sustainable growth" approach may provide a rough guide for evaluating a firm's growth prospects and is frequently proposed in regulatory proceedings.

Accordingly, while I believe that analysts' forecasts provide a superior and more direct guide to investors' growth expectations, I have included the "sustainable growth" approach for completeness. The sustainable growth rate is calculated by the formula, $g = br+sv$, where "b" is the expected retention ratio, "r" is the expected earned return on equity, "s" is the percent of common equity expected to be issued annually as new common stock, and "v" is the equity accretion rate.

Q. WHAT IS THE PURPOSE OF THE "SV" TERM?

A. Under DCF theory, the "sv" factor is a component of the growth rate designed to capture the impact of issuing new common stock at a price above, or below, book value. When a company's stock price is greater than its book value per share, the per-share contribution in excess of book value associated with new stock issues will accrue to the current shareholders. This increase to the book value of existing shareholders leads to higher expected earnings and dividends, with the "sv" factor incorporating this additional growth component.

Q. WHAT GROWTH RATE DOES THE EARNINGS RETENTION METHOD SUGGEST FOR THE GAS UTILITY PROXY GROUP?

A. The sustainable, "br+sv" growth rates for each firm in the Combination Utility Proxy Group are summarized on Exhibit WEA-2, with the underlying details being presented on Exhibit WEA-3. For each firm, the expected retention ratio (b) was calculated based on Value Line's projected dividends and earnings per share. Likewise, each firm's expected earned rate of return (r) was computed by dividing projected earnings per share by projected net book value. Because Value Line reports end-of-year book values, an adjustment factor was incorporated to compute an average rate of return over the year, consistent with the theory underlying this approach to estimating investors' growth expectations. Meanwhile, the percent of common equity expected to be issued annually as new common stock (s) was equal to the product of the projected market-to-book ratio and growth in common shares outstanding, while the equity accretion rate (v) was computed as 1 minus the inverse of the projected market-to-book ratio.

Q. WHAT COST OF EQUITY ESTIMATES WERE IMPLIED FOR THE COMBINATION UTILITY PROXY GROUP USING THE DCF MODEL?

A. After combining the dividend yields and respective growth projections for each utility, the resulting cost of common equity estimates are shown on Exhibit WEA-2.

Q. IN EVALUATING THE RESULTS OF THE CONSTANT GROWTH DCF MODEL, IS IT APPROPRIATE TO ELIMINATE ESTIMATES THAT ARE EXTREME LOW OR HIGH OUTLIERS?

A. Yes. In applying quantitative methods to estimate the cost of equity, it is essential that the resulting values pass fundamental tests of reasonableness and economic logic. Accordingly, DCF estimates that are implausibly low or high should be eliminated when evaluating the results of this method.

Q. HOW DID YOU EVALUATE DCF ESTIMATES AT THE LOW END OF THE RANGE?

A. It is a basic economic principle that investors can be induced to hold more risky assets only if they expect to earn a return to compensate them for their risk bearing. As a result, the rate of return that investors require from a utility's common stock, the most junior and riskiest of its securities, must be considerably higher than the yield offered by senior, long-term debt. Consistent with this principle, the DCF results must be adjusted to eliminate estimates that are determined to be extreme low outliers when compared against the yields available to investors from less risky utility bonds.

Q. WHAT DOES THIS TEST OF LOGIC IMPLY WITH RESPECT TO THE DCF RESULTS FOR THE COMBINATION UTILITY PROXY GROUP?

A. As noted earlier, S&P has assigned NWE a corporate credit rating of "BBB". Companies rated "BBB-", "BBB", and "BBB+" are all considered

part of the triple-B rating category, with Moody's monthly yields on triple-B bonds averaging approximately 6.0 percent in March 2011.[30] It is inconceivable that investors are not requiring a substantially higher rate of return for holding common stock. Consistent with this principle, the DCF results for the Combination Utility Proxy Group must be adjusted to eliminate estimates that are determined to be extreme low outliers when compared against the yields available to investors from less risky utility bonds.

Q. HAVE SIMILAR TESTS BEEN APPLIED BY REGULATORS?

A. Yes. FERC has noted that adjustments are justified where applications of the DCF approach produce illogical results. FERC evaluates DCF results against observable yields on long-term public utility debt and has recognized that it is appropriate to eliminate estimates that do not sufficiently exceed this threshold. In a 2002 opinion establishing its current precedent for determining ROEs for electric utilities, for example, FERC noted:

> An adjustment to this data is appropriate in the case of PG&E's low-end return of 8.42 percent, which is comparable to the average Moody's "A" grade public utility bond yield of 8.06 percent, for October 1999. Because investors cannot be expected to purchase stock if debt, which has less risk than stock, yields essentially the same return, this low-end return cannot be considered reliable in this case.[31]

For gas utilities, FERC noted in *Kern River Gas Transmission Company* that:

[30] Moody's Investors Service, www.credittrends.com.
[31] *Southern California Edison Company*, 92 FERC ¶ 61,070 at p. 22 (2000).

> [T]he 7.31 and 7.32 percent costs of equity for El Paso and Williams found by the ALJ are only 110 and 122 basis points above that average yield for public utility debt. [32]

The Commission upheld the opinion of Staff and the Administrative Law Judge that cost of equity estimates for these two proxy group companies "were too low to be credible." [33]

The practice of eliminating low-end outliers has been affirmed in numerous FERC proceedings,[34] and in its April 15, 2010 decision in *SoCal Edison*, FERC affirmed that, "it is reasonable to exclude any company whose low-end ROE fails to exceed the average bond yield by about 100 basis points or more."[35]

Q. WHAT ELSE SHOULD BE CONSIDERED IN EVALUATING DCF ESTIMATES AT THE LOW END OF THE RANGE?

A. As indicated earlier, while corporate bond yields have declined substantially as the worst of the financial crisis has abated, it is generally expected that long-term interest rates will rise as the recession ends and the economy returns to a more normal pattern of growth. As shown in Table WEA-3 below, forecasts of IHS Global Insight and the EIA imply an average triple-B bond yield of 7.16 percent over the period 2012-2015:

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[32] *Kern River Gas Transmission Company*, Opinion No. 486, 117 FERC ¶ 61,077 at P 140 & n. 227 (2006).
[33] *Id.*
[34] *See, e.g., Virginia Electric Power Co.*, 123 FERC ¶ 61,098 at P 64 (2008).
[35] *Southern California Edison Co.*, 131 FERC ¶ 61,020 at P 55 (2010) ("*SoCal Edison*").

TABLE WEA-3
IMPLIED BBB BOND YIELD

	2012-15
Projected AA Utility Yield	
IHS Global Insight (a)	6.33%
EIA (b)	6.58%
Average	6.45%
Current BBB - AA Yield Spread (c)	0.71%
Implied Triple-B Utility Yield	**7.16%**

(a) IHS Global Insight, *U.S. Economic Outlook* at 19 (Feb. 2011).
(b) Energy Information Administration, *Annual Energy Outlook 2011 Early Release* (Dec. 16, 2010).
(c) Based on monthly average bond yields for the six-month period Oct. 2010 - Mar. 2011.

The increase in debt yields anticipated by IHS Global Insight and EIA is also supported by the widely-referenced Blue Chip Financial Forecasts, which projects that yields on corporate bonds will climb more than 100 basis points through the period 2012-2016.[36]

Q. WHAT DOES THIS TEST OF LOGIC IMPLY WITH RESPECT TO THE DCF RESULTS FOR THE COMBINATION UTILITY PROXY GROUP?

A. As shown on Exhibit WEA-2, fifteen low-end DCF estimates ranged from 2.1 percent to 6.8 percent. Ten of these values were essentially at or below current utility bond yields, with a cost of equity estimate of 6.8 percent falling below the projected yield on triple-B utility bonds from Table WEA-3, above. In light of the risk-return tradeoff principle and the test applied in *SoCal Edison*, it is inconceivable that investors are not requiring a substantially higher rate of return for holding common stock, which is the

[36] *Blue Chip Financial Forecasts*, Vol. 29, No. 12 (Dec. 1, 2010) & Vol. 30, No. 3 (Mar. 1, 2011).

riskiest of a utility's securities. As a result, consistent with the test of economic logic applied by FERC and the upward trend expected for utility bond yields, these values provide little guidance as to the returns investors require from utility common stocks and should be excluded.

Q. WHAT COST OF COMMON EQUITY ESTIMATES ARE IMPLIED BY YOUR DCF RESULTS FOR THE COMBINATION UTILITY PROXY GROUP?

A. As shown on Exhibit WEA-2 and summarized in Table WEA-4, below, after eliminating illogical values, application of the constant growth DCF model resulted in cost of common equity estimates ranging from 9.2 percent to 10.7 percent:

TABLE WEA-4
DCF RESULTS – COMBINATION UTILITY PROXY GROUP

Growth Rate	Average Cost of Equity
Value Line	10.7%
IBES	10.4%
Zacks	9.9%
br+sv	9.2%

Q. WHAT WERE THE RESULTS OF YOUR DCF ANALYSIS FOR THE GAS UTILITY PROXY GROUP?

A. I applied the DCF model to the Gas Utility Proxy Group in exactly the same manner described earlier for the Combination Utility Proxy Group. The results of my DCF analysis for the Gas Utility Proxy Group are presented in Exhibit WEA-4, with the sustainable, "br+sv" growth rates being developed on Exhibit WEA-5. As summarized in Table WEA-5, below, after eliminating illogical values, application of the constant

growth DCF model to the firms in the Gas Utility Proxy Group resulted in cost of common equity estimates in the 8.6 percent to 10.3 percent range:

TABLE WEA-5
DCF RESULTS –GAS UTILITY PROXY GROUP

Growth Rate	Average Cost of Equity
Value Line	10.3%
IBES	8.7%
Zacks	8.6%
br+sv	9.3%

Q. WHAT WERE THE RESULTS OF YOUR DCF ANALYSIS FOR THE NON-UTILITY PROXY GROUP?

A. The results of my constant growth DCF analysis for the Non-Utility Proxy Group, which mirror those for the two groups of utilities, are presented in Exhibit WEA-6. I noted earlier that values that are implausibly low or high should be eliminated when evaluating the results of any quantitative method used to estimate the cost of equity. As highlighted on Exhibit WEA-6, in addition to illogical low-end values, various DCF estimates for the firms in the Non-Utility Proxy Group exceeded 17.0 percent. I determined that, when compared with the balance of the remaining estimates, these values could be considered implausible and should be excluded. This is also consistent with the precedent adopted by FERC, which has established that estimates found to be "extreme outliers" should be disregarded in interpreting the results of quantitative methods used to estimate the cost of equity.[37]

[37] See, *e.g.*, *Bangor Hydro-Electric Co.*, 109 FERC ¶ 61,147 at P 205 (2004).

As summarized in Table WEA-6, below, after eliminating illogical low and high-end values, application of the constant growth DCF model resulted in cost of common equity estimates generally on the order of at least 12 percent:

TABLE WEA-6
DCF RESULTS – NON-UTILITY PROXY GROUP

Growth Rate	Average Cost of Equity
Value Line	11.9%
IBES	12.4%
Zacks	12.5%
br+sv	12.1%

As discussed earlier, reference to the Non-Utility Proxy Group is consistent with established regulatory principles. Required returns for utilities should be in line with those of non-utility firms of comparable risk operating under the constraints of free competition.

Q. DO THE HIGHER DCF ESTIMATES FOR THE NON-UTILITY PROXY GROUP DEMONSTRATE THAT THE RISKS OF THESE COMPANIES ARE GREATER THAN NWE?

A. No. While we are accustomed to associating higher risk with higher ROE, DCF estimates of investors' required rate of return do not always produce that result. Performing the DCF calculations for the Non-Utility Proxy Group produced ROE estimates that are higher than the DCF estimates for the Utility Proxy Group, even though the risks that investors associate with the group of non-utility firms – as measured by S&P's credit ratings and Value Line's Safety Rank, Financial Strength, and Beta – are lower than the risks investors associate with the Utility Proxy Group. The actual

cost of equity is unobservable, and DCF estimates may depart from these values because investors' expectations may not be captured by the inputs to the ROE model, particularly the assumed growth rate. Nevertheless, regulators have relied upon DCF calculations for years in evaluating a fair ROE. The divergence between the DCF estimates for the utility and non-utility groups suggests that both should be considered to ensure a balanced end-result.

D. Capital Asset Pricing Model

Q. PLEASE DESCRIBE THE CAPM.

A. The CAPM is a theory of market equilibrium that measures risk using the beta coefficient. Assuming investors are fully diversified, the relevant risk of an individual asset (*e.g.*, common stock) is its volatility relative to the market as a whole, with beta reflecting the tendency of a stock's price to follow changes in the market. The CAPM is mathematically expressed as:

$$R_j = R_f + \beta_j(R_m - R_f)$$

where: R_j = required rate of return for stock j;
R_f = risk-free rate;
R_m = expected return on the market portfolio; and,
β_j = beta, or systematic risk, for stock j.

Like the DCF model, the CAPM is an *ex-ante,* or forward-looking model based on expectations of the future. As a result, in order to produce a meaningful estimate of investors' required rate of return, the CAPM must be applied using estimates that reflect the expectations of actual investors in the market, not with backward-looking, historical data.

Q. HOW DID YOU APPLY THE CAPM TO ESTIMATE THE COST OF COMMON EQUITY?

A. Application of the CAPM to the three proxy groups based on a forward-looking estimate for investors' required rate of return from common stocks is presented on Exhibit WEA-8. In order to capture the expectations of today's investors in current capital markets, the expected market rate of return was estimated by conducting a DCF analysis on the dividend paying firms in the S&P 500.

The dividend yield for each firm was calculated based on the annual indicated dividend payment obtained from Value Line, increased by one-years' growth using the rate discussed subsequently (1 + *g*) to convert them to year-ahead dividend yields presumed by the constant growth DCF model. The growth rate was equal to the consensus earnings growth projections for each firm published by IBES, with each firm's dividend yield and growth rate being weighted by its proportionate share of total market value. Based on the weighted average of the projections for the 354 individual firms, current estimates imply an average growth rate over the next five years of 10.6 percent. Combining this average growth rate with a year-ahead dividend yield of 2.5 percent results in a current cost of common equity estimate for the market as a whole (R_m) of approximately 13.1 percent. Subtracting a 4.5 percent risk-free rate based on the average yield on 30-year Treasury bonds produced a market equity risk premium of 8.3 percent.

Q. WHAT WAS THE SOURCE OF THE BETA VALUES YOU USED TO APPLY THE CAPM?

A. I relied on the beta values reported by Value Line, which in my experience is the most widely referenced source for beta in regulatory proceedings. As noted in *New Regulatory Finance*:

> Value Line is the largest and most widely circulated independent investment advisory service, and influences the expectations of a large number of institutional and individual investors. ... Value Line betas are computed on a theoretically sound basis using a broadly based market index, and they are adjusted for the regression tendency of betas to converge to 1.00.[38]

Q. WHAT ELSE SHOULD BE CONSIDERED IN APPLYING THE CAPM?

A. As explained by *Morningstar*:

> One of the most remarkable discoveries of modern finance is that of a relationship between firm size and return. The relationship cuts across the entire size spectrum but is most evident among smaller companies, which have higher returns on average than larger ones.[39]

Because empirical research indicates that the CAPM does not fully account for observed differences in rates of return attributable to firm size, a modification is required to account for this size effect.

According to the CAPM, the expected return on a security should consist of the riskless rate, plus a premium to compensate for the systematic risk of the particular security. The degree of systematic risk is represented by the beta coefficient. The need for the size adjustment arises because differences in investors' required rates of return that are

[38] Morin, Roger A., "New Regulatory Finance," *Public Utilities Reports* at 71 (2006).
[39] *Morningstar*, "Ibbotson SBBI 2011 Valuation Yearbook," at p. 83 (footnote omitted).

related to firm size are not fully captured by beta. To account for this, Morningstar has developed size premiums that need to be added to the theoretical CAPM cost of equity estimates to account for the level of a firm's market capitalization in determining the CAPM cost of equity.[40] Accordingly, my CAPM analyses for the respective proxy groups incorporated an adjustment to recognize the impact of size distinctions, as measured by market capitalization.

Q. WHAT COST OF EQUITY ESTIMATES WERE INDICATED FOR THE PROXY GROUPS BASED ON THIS FORWARD-LOOKING APPLICATION OF THE CAPM?

A. The average market capitalization of the Combination Utility group is $7.5 billion. Based on data from *Morningstar*, this means that the theoretical CAPM cost of equity estimate must be increased by 81 basis points to account for the industry group's relatively smaller size. As shown on page 1 of Exhibit WEA-8, adjusting the theoretical CAPM result to incorporate this size adjustment results in an average indicated cost of common equity of 11.5 percent. Applying this same CAPM approach to the firms in the Gas Utility Proxy Group implied an average cost of equity of 12.0 percent (Exhibit WEA-8, page 2).

[40] *Id.* at Table C-1.

Q. WHAT COST OF COMMON EQUITY WAS INDICATED FOR THE NON-UTILITY PROXY GROUP BASED ON THIS FORWARD-LOOKING APPLICATION OF THE CAPM?

A. As shown on page 3 of Exhibit WEA-8, applying the forward-looking CAPM approach to the firms in the Non-Utility Proxy Group results in an average implied cost of common equity of 10.0 percent.

Q. SHOULD THE CAPM APPROACH BE APPLIED USING HISTORICAL RATES OF RETURN?

A. No. The CAPM cost of common equity estimate is calibrated from investors' required risk premium between Treasury bonds and common stocks. In response to heightened uncertainties, investors have repeatedly sought a safe haven in U.S. government bonds and this "flight to safety" has pushed Treasury yields significantly lower while yield spreads for corporate debt have widened. This distortion not only impacts the absolute level of the CAPM cost of equity estimate, but it affects estimated risk premiums. Economic logic would suggest that investors' required risk premium for common stocks over Treasury bonds has also increased.

Meanwhile, backward-looking approaches incorrectly assume that investors' assessment of the required risk premium between Treasury bonds and common stocks is constant, and equal to some historical average. At no time in recent history has the fallacy of this assumption been demonstrated more concretely. This incongruity between investors'

current expectations and historical risk premiums is particularly relevant during periods of heightened uncertainty and rapidly changing capital market conditions, such as those experienced recently.[41]

E. Risk Premium Method

Q. BRIEFLY DESCRIBE THE RISK PREMIUM METHOD.

A. The risk premium method of estimating investors' required rate of return extends to common stocks the risk-return tradeoff observed with bonds. The cost of equity is estimated by first determining the additional return investors require to forgo the relative safety of bonds and to bear the greater risks associated with common stock, and by then adding this equity risk premium to the current yield on bonds. Like the DCF model, the risk premium method is capital market oriented. However, unlike DCF models, which indirectly impute the cost of equity, risk premium methods directly estimate investors' required rate of return by adding an equity risk premium to observable bond yields.

Q. HOW DID YOU IMPLEMENT THE RISK PREMIUM METHOD?

A. I based my estimates of equity risk premiums for utilities on surveys of previously authorized rates of return on common equity. Authorized returns presumably reflect regulatory commissions' best estimates of the cost of equity, however determined, at the time they issued their final order. Such returns should represent a balanced and impartial outcome

[41] FERC has previously rejected CAPM methodologies based on historical data because whatever historical relationships existed between debt and equity securities may no longer hold. *See Orange & Rockland Utils., Inc., 40 F.E.R.C. P63,053, at pp. 65,208 -09 (1987), aff'd, Opinion No. 314, 44 F.E.R.C. P61,253 at 65,208.*

that considers the need to maintain a utility's financial integrity and ability to attract capital. Moreover, allowed returns are an important consideration for investors and have the potential to influence other observable investment parameters, including credit ratings and borrowing costs. Thus, this data provides a logical and frequently referenced basis for estimating equity risk premiums for regulated utilities.

Q. HOW DID YOU IMPLEMENT THE RISK PREMIUM APPROACH USING SURVEYS OF ALLOWED RATES OF RETURN?

A. Surveys of previously authorized rates of return on common equity are frequently referenced as the basis for estimating equity risk premiums. The rates of return on common equity authorized utilities by regulatory commissions across the U.S. are compiled by Regulatory Research Associates and published in its *Regulatory Focus* report. In Exhibit WEA-9, the average yield on public utility bonds is subtracted from the average allowed rate of return on common equity for gas utilities to calculate equity risk premiums for each quarter between 1980 and 2010.[42] Over this period, these equity risk premiums for gas utilities averaged 3.09 percent, and the yield on public utility bonds averaged 9.01 percent.

Application of the risk premium method to electric utilities is shown in Exhibit WEA-10. Based on annual data over the period 1974 through 2010, equity risk premiums for electric utilities averaged 3.36 percent.[43]

[42] My analysis encompasses the entire period for which published data is available.
[43] My analysis used annual data for electric utilities because quarterly information was not available for the entire 1974-2010 period. Again, my application of the risk premium method included the entire period for which published data is available.

Q. IS THERE ANY CAPITAL MARKET RELATIONSHIPS THAT MUST BE CONSIDERED WHEN IMPLEMENTING THE RISK PREMIUM METHOD?

A. Yes. There is considerable evidence that the magnitude of equity risk premiums is not constant and that equity risk premiums tend to move inversely with interest rates. In other words, when interest rate levels are relatively high, equity risk premiums narrow, and when interest rates are relatively low, equity risk premiums widen. The implication of this inverse relationship is that the cost of equity does not move as much as, or in lockstep with, interest rates. Accordingly, for a 1 percent increase or decrease in interest rates, the cost of equity may only rise or fall, say, 50 basis points. Therefore, when implementing the risk premium method, adjustments may be required to incorporate this inverse relationship if current interest rate levels have diverged from the average interest rate level represented in the data set.

Finally, it is important to recognize that the historical focus of the risk premium studies almost certainly ensures that they fail to fully capture the significantly greater risks that investors now associate with providing utility service. As a result, they are likely to understate the cost of equity for a firm operating in today's utility industry.

Q. WHAT COST OF EQUITY IS IMPLIED BY SURVEYS OF ALLOWED RATES OF RETURN ON EQUITY?

A. Based on the regression output between the interest rates and equity risk premiums displayed on page 3 of Exhibit WEA-9, the equity risk premium for gas utilities increased approximately 45 basis points for each percentage point drop in the yield on average public utility bonds. As illustrated on page 1 of Exhibit WEA-9, with the average yield on single-A public utility bonds in March 2011 being 5.56 percent, this implied a current equity risk premium of 4.65 percent for gas utilities. Adding this equity risk premium to the average yield on triple-B utility bonds of 5.97 percent implies a current cost of equity for NWE of approximately 10.6 percent.

As shown on page 1 of Exhibit WEA-10, applying this approach using data for electric utilities resulted in an implied cost of equity for NWE of 10.7 percent.

Q. IS IT APPROPRIATE TO CONSIDER ANTICIPATED CAPITAL MARKET CHANGES IN APPLYING RISK PREMIUM METHODS?

A. Yes. As discussed earlier, there is widespread consensus that interest rates will increase materially as the economy continues to strengthen. As a result, current bond yields are likely to understate capital market requirements at the time the outcome of this proceeding becomes effective. Accordingly, in addition to the use of current bond yields, I also applied the risk premium method based on the forecasted bond yields

developed based on projections published by IHS Global Insight and EIA, as shown in Table WEA-3.

Q. WHAT COST OF EQUITY WAS PRODUCED BY THE RISK PREMIUM APPROACH AFTER INCORPORATING FORECASTED BOND YIELDS?

A. As shown on page 2 of Exhibit WEA-9, incorporating a forecasted yield for 2012-2015 and adjusting for changes in interest rates since the study period implied an equity risk premium of 4.14 percent for gas utilities. Adding this equity risk premium to the implied yield on triple-B public utility bonds for 2012-2015 of 7.19 percent resulted in an implied cost of equity of approximately 11.3 percent. Considering projected bond yields in applying the risk premium approach to electric utilities suggested a cost of equity to NWE of approximately 11.4 percent.

F. Expected Earnings Approach

Q. WHAT OTHER ANALYSES DID YOU CONDUCT TO ESTIMATE THE COST OF COMMON EQUITY?

A. As I noted earlier, I also evaluated the cost of common equity using the expected earnings method. Reference to rates of return available from alternative investments of comparable risk can provide an important benchmark in assessing the return necessary to assure confidence in the financial integrity of a firm and its ability to attract capital. This expected earnings approach is consistent with the economic underpinnings for a fair rate of return established by the U.S. Supreme Court in *Bluefield* and *Hope*. Moreover, it avoids the complexities and limitations of capital

market methods and instead focuses on the returns earned on book equity, which are readily available to investors.

Q. WHAT RATES OF RETURN ON EQUITY ARE INDICATED FOR UTILITIES BASED ON THE EXPECTED EARNINGS APPROACH?

A. Value Line reports that its analysts anticipate an average rate of return on common equity for the gas and electric utility industries of 10.0 percent and 10.5 percent, respectively, over its 2014-2016 forecast horizon.[44] For the firms in the Combination Utility Group specifically, the returns on common equity projected by Value Line over its three-to-five year forecast horizon are shown on page 1 of Exhibit WEA-11, with values for the Gas Utility Proxy Group being presented on page 2.

Consistent with the rationale underlying the development of the br+sv growth rates, these year-end values were converted to average returns using the same adjustment factor discussed earlier and developed on Exhibits WEA-3 and WEA-5, respectively. As shown on page 1 of Exhibit WEA-11, Value Line's projections for the Combination Utility Proxy Group suggested an average ROE of 11.3 percent. The average indicated ROE for the Gas Utility Proxy Group (page 2 of Exhibit WEA-11) was 10.8 percent.

[44] The Value Line Investment Survey at 546 (Mar. 11, 2011) and 901 (Mar. 25, 2011).

G. Flotation Costs

Q. WHAT OTHER CONSIDERATIONS ARE RELEVANT IN DETERMINING THE ROE FOR NWE?

A. The common equity used to finance the investment in utility assets is provided from either the sale of stock in the capital markets or from retained earnings not paid out as dividends. When equity is raised through the sale of common stock, there are costs associated with "floating" the new equity securities. These flotation costs include services such as legal, accounting, and printing, as well as the fees and discounts paid to compensate brokers for selling the stock to the public. Also, some argue that the "market pressure" from the additional supply of common stock and other market factors may further reduce the amount of funds that a utility nets when it issues common equity.

Q. IS THERE AN ESTABLISHED MECHANISM FOR A UTILITY TO RECOGNIZE EQUITY ISSUANCE COSTS?

A. No. While debt flotation costs are recorded on the books of the utility, amortized over the life of the issue, and thus increase the effective cost of debt capital, there is no similar accounting treatment to ensure that equity flotation costs are recorded and ultimately recognized. Alternatively, no rate of return is authorized on flotation costs necessarily incurred to obtain a portion of the equity capital used to finance plant. In other words, equity flotation costs are not included in a utility's rate base because neither that portion of the gross proceeds from the sale of common stock used to pay

flotation costs is available to invest in plant and equipment, nor are flotation costs capitalized as an intangible asset. Unless some provision is made to recognize these issuance costs, a utility's revenue requirements will not fully reflect all of the costs incurred for the use of investors' funds. Because there is no accounting convention to accumulate the flotation costs associated with equity issues, they must be accounted for indirectly, with an upward adjustment to the cost of common equity being the most logical mechanism.

Q. WHAT IS THE MAGNITUDE OF THE ADJUSTMENT TO THE "BARE BONES" COST OF COMMON EQUITY TO ACCOUNT FOR ISSUANCE COSTS?

A. While there are a number of ways in which a flotation cost adjustment can be calculated, one of the most common methods used to account for flotation costs in regulatory proceedings is to apply an average flotation-cost percentage to a utility's dividend yield. Based on a review of the finance literature, *New Regulatory Finance* concluded:

> The flotation cost allowance requires an estimated adjustment to the return on equity of approximately 5% to 10%, depending on the size and risk of the issue.[45]

Alternatively, a study of data from Morgan Stanley regarding issuance costs associated with utility common stock issuances suggests an average flotation cost percentage of 3.6 percent.[46]

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[45] Roger A. Morin, "New Regulatory Finance," *Public Utilities Reports, Inc.* at 323 (1994).

[46] Application of Yankee Gas Services Company for a Rate Increase, DPUC Docket No. 04-06-01, Direct Testimony of George J. Eckenroth (Jul. 2, 2004) at Exhibit GJE-11.1. Updating the results presented by Mr. Eckenroth through April 2005 also resulted in an average flotation cost

Issuance costs are a legitimate consideration in setting the return on equity for a utility, and applying these expense percentages to a representative dividend yield for a utility of 4.5 percent implies a flotation cost adjustment on the order of 16 to 45 basis points.

IV. RECOMMENDED RETURN ON EQUITY

Q. WHAT IS THE PURPOSE OF THIS SECTION?

A. In addition to presenting the conclusions of my evaluation of a fair ROE on equity range for NWE, this section also discusses the relationship between ROE and preservation of a utility's financial integrity and the ability to attract capital. In addition, I evaluate the reasonableness of NWE's requested capital structure.

A. Summary of Quantitative Results

Q. PLEASE SUMMARIZE THE RESULTS OF YOUR QUANTITATIVE ANALYSES.

A. The cost of common equity estimates produced by the various capital market oriented analyses described in my testimony are summarized in Table WEA-7, below:

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percentage of 3.6 percent.

TABLE WEA-7
SUMMARY OF QUANTITATIVE RESULTS

DCF	Combination Utility	Gas Utility	Non-Utility
Earnings Growth			
Value Line	10.7%	10.3%	11.9%
IBES	10.4%	8.7%	12.4%
Zacks	9.9%	8.6%	12.5%
br + sv	9.2%	9.3%	12.1%
CAPM			
Unadjusted	10.7%	10.2%	10.4%
Adjusted	11.5%	12.0%	10.0%
Utility Risk Premium			
Current Bond Yields	10.7%	10.6%	
Projected Bond Yields	11.4%	11.3%	
Expected Earnings			
Value Line 2014-16	10.5%	10.0%	
Utility Proxy Group	11.3%	10.8%	

Based on my assessment of the relative strengths and weaknesses inherent in each method, and conservatively giving less emphasis to the upper- and lower-most boundaries of the range of DCF results, I concluded that the cost of common equity indicated by my analyses is in the 10.0 percent to 11.4 percent range. After incorporating a minimal adjustment for flotation costs of 20 basis points to my "bare bones" cost of equity range, I concluded that my analyses indicate a fair ROE in the 10.2 percent to 11.6 percent range.

B. Implications for Financial Integrity

Q. WHY IS IT IMPORTANT TO ALLOW NWE AN ADEQUATE ROE?

A. Given the importance of the utility industry to the economy and society, it is essential to maintain reliable and economical service to all consumers. While NWE remains committed to providing reliable gas utility service, a utility's ability to fulfill its mandate can be compromised if it lacks the

necessary financial wherewithal or is unable to earn a return sufficient to attract capital.

As documented earlier, the major rating agencies have warned of exposure to uncertainties associated with political and regulatory developments, especially in view of the pressures associated with ongoing capital expenditure requirements, uncertain economic and financial market conditions, and the potential for continued energy price volatility. Investors understand just how swiftly unforeseen circumstances can lead to deterioration in a utility's financial condition, and stakeholders have discovered first hand how difficult and complex it can be to remedy the situation after the fact.

While providing the infrastructure necessary to enhance the utility system and meet the energy needs of customers is certainly desirable, it imposes additional financial responsibilities on NWE. For a utility with an obligation to provide reliable service, investors' increased reticence to supply additional capital during times of crisis highlights the necessity of preserving the flexibility necessary to overcome periods of adverse capital market conditions. These considerations heighten the importance of allowing NWE an adequate ROE.

Q. WHAT ROLE DOES REGULATION PLAY IN ENSURING THAT NWE HAS ACCESS TO CAPITAL UNDER REASONABLE TERMS AND ON A SUSTAINABLE BASIS?

A. Investors recognize that regulation has its own risks, and that constructive regulation is a key ingredient in supporting utility credit ratings and financial integrity, particularly during times of adverse conditions.

Fitch concluded, "[G]iven the lingering rate of unemployment and voter concerns about the economy, there could well be pockets of adverse rate decisions, and those companies with little financial cushion could suffer adverse effects." [47] Moody's has also emphasized the need for regulatory support, concluding:

> For the longer term, however, we are becoming increasingly concerned about possible changes to our fundamental assumptions about regulatory risk, particularly the prospect of a more adversarial political (and therefore regulatory) environment. A prolonged recessionary climate with high unemployment, or an intense period of inflation, could make cost recovery more uncertain.[48]

Similarly, S&P concluded, "the quality of regulation is at the forefront of our analysis of utility creditworthiness."[49]

[47] Fitch Ratings Ltd., "U.S. Utilities, Power and Gas 2010 Outlook," *Global Power North America Special Report* (Dec. 4, 2009).
[48] Moody's Investors Service, "U.S. Regulated Electric Utilities, Six-Month Update," *Industry Outlook* (July 2009).
[49] Standard & Poor's Corporation, "Assessing U.S. Utility Regulatory Environments," *RatingsDirect* (Nov. 7, 2008).

Q. DO CUSTOMERS BENEFIT BY ENHANCING THE UTILITY'S FINANCIAL FLEXIBILITY?

A. Yes. Providing an ROE that is both commensurate with those available from investments of corresponding risk and sufficient to maintain NWE'sability to attract capital is consistent with the economic requirements embodied in the U.S. Supreme Court's *Bluefield* and *Hope* decisions; but it is also in customers' best interests. Ultimately, it is customers and the service area economy that enjoy the benefits that come from ensuring that the utility has the financial wherewithal to take whatever actions are required to ensure a reliable energy supply. By the same token, customers also bear a significant burden when the ability of the utility to attract capital is impaired and service quality is compromised.

Q. WOULD INVESTORS CONSIDER NWE'S RELATIVE SIZE IN THEIR ASSESSMENT OF THE COMPANY'S RISKS AND PROSPECTS?

A. Yes. A firm's relative size has important implications for investors in their evaluation of alternative investments, and it is well established that smaller firms are more risky than larger firms. With a market capitalization of approximately $1.0 billion, NWE is significantly smaller than the publicly traded firms in the utility proxy groups used subsequently to estimate the cost of equity.[50]

The magnitude of the size disparity between NWE and other firms in the utility industry has important practical implications with respect to

[50] Based on data reported by Value Line, the average market capitalization for the firms in the Gas Utiliy and Combination Utility Proxy Groups was $2.5 billion and $7.5 billion, respectively.

the risks faced by investors. All else being equal, it is well accepted that smaller firms are more risky than their larger counterparts, due in part to their relative lack of diversification and lower financial resiliency.[51] These greater risks imply a higher required rate of return, and there is ample empirical evidence that investors in smaller firms realize higher rates of return than in larger firms.[52] Common sense and accepted financial doctrine hold that investors require higher returns from smaller companies, and unless that compensation is provided in the rate of return allowed for a utility, the legal tests embodied in the *Hope* and *Bluefield* cases cannot be met.

C. Other Factors

Q. WHAT ARE THE IMPLICATIONS OF NWE'S INVESTMENT RISKS RELATIVE TO THE PROXY GROUPS USED TO ESTIMATE THE COST OF EQUITY?

A. While NWE's triple-B corporate credit rating is comparable to the average for the Combination Utility Proxy Group, the Company's credit rating is indicative of significantly higher investment risks than the proxy groups of gas utilities and non-utility firms, which have average corporate credit ratings of "A-" and "A", respectively. Because investors require a higher rate of return to compensate them for bearing more risk, the greater

[51] It is well established in the financial literature that smaller firms are more risky than larger firms. See, *e.g.*, Eugene F. Fama and Kenneth R. French, "The Cross-Section of Expected Stock Returns", *The Journal of Finance* (June 1992); George E. Pinches, J. Clay Singleton, and Ali Jahankhani, "Fixed Coverage as a Determinant of Electric Utility Bond Ratings", *Financial Management* (Summer 1978).

[52] See for example Rolf W. Banz, "The Relationship Between Return and Market Value of Common Stocks", *Journal of Financial Economics* (September 1981) at 16.

investment risks implied for NWE suggests that the cost of equity is correspondingly higher.

Q. HOW DOES THE LACK OF A WEATHER NORMALIZATION ADJUSTMENT IMPACT NWE'S ROE RELATIVE TO THE GAS UTILITY PROXY GROUP?

A. As indicated earlier, NWE does not have a weather normalization adjustment mechanism in place to account for the impacts of abnormal weather on its South Dakota-jurisdictional gas utility operations. A WNA moderates the impact of extreme weather on customers and, at the same time, dampens the volatility of a gas utility's revenues. Indeed, all but one of the twelve companies in the proxy group of gas utilities have some form of weather mitigant, including decoupling mechanisms, adjustment clauses, insurance, or rate design features that make the LDC less susceptible to variations in gas consumption due to weather. As Value Line noted:

> Unseasonable warmer or colder weather can lead to volatility in results. By using these rate mechanisms, natural gas utilities are less subject to swings in profitability due to unforeseen weather conditions.[53]

As a result, while NWE remains exposed to the risks associated with abnormal weather, the reduced uncertainties associated with a WNA are at least partially accounted-for by investors and reflected in my cost of equity estimates.

[53] The Value Line Investment Survey at 547 (Sep. 10, 2010).

Q. WHAT OTHER CONSIDERATIONS ARE RELEVANT IN DETERMINING A REASONABLE RATE OF RETURN ON EQUITY FOR NWE'S JURISDICTIONAL GAS UTILITY OPERATIONS?

A. In evaluating a reasonable rate of return on equity, it is also important to note that, unlike many gas utilities, NWE does not benefit from elasticity or decoupling mechanisms that insulate utility margins from declining usage. Declines in customer usage translate into reduced margins, and NWE's continued exposure to the uncertainties associated with the impact of price elasticity and other fluctuations in customer usage implies a greater level of risk than is faced by other utilities, including many of the firms in my proxy groups.

Q. WHAT DOES THIS EVIDENCE SUGGEST WITH RESPECT TO NWE'S COST OF EQUITY RELATIVE TO THE PROXY GROUP RESULTS?

A. The higher investment risks associated with NWE's lower credit ratings and the lack of WNA or decoupling mechanism suggest that investors' required return for the Company is significantly higher than for the Gas Utility Proxy Group. Competition for capital resources is intense and investors are free to invest their funds wherever they choose. Denying investors the opportunity to earn a return that is commensurate with NWE's investment risks would erode the Company's credit standing and hamper its future ability to attract capital under reasonable terms, especially during periods of adverse capital market conditions.

D. Capital Structure

Q. IS AN EVALUATION OF THE CAPITAL STRUCTURE MAINTAINED BY A UTILITY RELEVANT IN ASSESSING ITS RETURN ON EQUITY?

A. Yes. Other things equal, a higher debt ratio, or lower common equity ratio, translates into increased financial risk for all investors. A greater amount of debt means more investors have a senior claim on available cash flow, thereby reducing the certainty that each will receive his contractual payments. This increases the risks to which lenders are exposed, and they require correspondingly higher rates of interest. From common shareholders' standpoint, a higher debt ratio means that there are proportionately more investors ahead of them, thereby increasing the uncertainty as to the amount of cash flow, if any, that will remain.

Q. WHAT COMMON EQUITY RATIO IS IMPLICIT IN NWE'S REQUESTED CAPITAL STRUCTURE?

A. NWE's capital structure is presented in the testimony of Brian B. Bird. As summarized there, common equity as a percent of the capital sources used to compute the overall ROE for NWE was 56.1 percent.

Q. HOW CAN THE COMPANY'S REQUESTED CAPITAL STRUCTURE BE EVALUATED?

A. It is generally accepted that the norms established by comparable firms provide one valid benchmark against which to evaluate the reasonableness of a utility's capital structure. The capital structure maintained by other utilities should reflect their collective efforts to finance

1 themselves so as to minimize capital costs while preserving their financial
2 integrity and ability to attract capital. Moreover, these industry capital
3 structures should also incorporate the requirements of investors (both debt
4 and equity), as well as the influence of regulators.

5 **Q. WHAT IS THE AVERAGE CAPITALIZATION FOR THE GAS UTILITY**
6 **PROXY GROUP?**

7 A. As shown on page 1 of Exhibit WEA-12, for the firms in the Gas Utility
8 Proxy Group, common equity ratios at fiscal year-end 2010 ranged
9 between 45.2 percent and 68.9 percent and averaged 55.1 percent of
10 long-term capital. Meanwhile, Value Line expects an average common
11 equity ratio for the Gas Utility Proxy Group of 61.4 percent for its three-to-
12 five year forecast horizon.

13 **Q. WHAT AVERAGE CAPITALIZATION IS MAINTAINED BY THE**
14 **COMBINATION UTILITY PROXY GROUP?**

15 A. Capitalization ratios for the firms in the Combination Utility Proxy Group
16 are shown on page 2 of Exhibit WEA-10. Common equity ratios at year-
17 end 2010 ranged between 25.3 percent and 63.8 percent and averaged
18 47.0 percent of long-term capital for these combination utilities, with Value
19 Line projecting an average common equity ratio for the Combination Utility
20 Proxy Group of 49.6 percent for 2014-2016.

Q. WHAT IMPLICATION DOES THE INCREASING RISK OF THE UTILITY INDUSTRY HAVE FOR THE CAPITAL STRUCTURE MAINTAINED BY NWE?

A. As discussed earlier, utilities are facing energy market volatility, rising cost structures, the need to finance significant capital investment plans, uncertainties over accommodating economic and financial market uncertainties, and ongoing regulatory risks. Taken together, these considerations warrant a stronger balance sheet to deal with an increasingly uncertain environment. A more conservative financial profile, in the form of a higher common equity ratio, is consistent with increasing uncertainties and the need to maintain the continuous access to capital that is required to fund operations and necessary system investment, including times of adverse capital market conditions.

Moody's has repeatedly warned investors of the risks associated with debt leverage and fixed obligations and advised utilities not to squander the opportunity to strengthen the balance sheet as a buffer against future uncertainties.[54] More recently, Moody's concluded:

> From a credit perspective, we believe a strong balance sheet coupled with abundant sources of liquidity represents one of the best defenses against business and operating risk and potential negative ratings actions.[55]

[54] Moody's Investors Service, "Storm Clouds Gathering on the Horizon for the North American Electric Utility Sector," *Special Comment* (Aug. 2007); "U.S. Electric Utility Sector," *Industry Outlook* (Jan. 2008).
[55] Moody's Investors Service, "U.S. Electric Utilities Face Challenges Beyond Near-Term," *Industry Outlook* (Jan. 2010).

Similarly, S&P noted that, "we generally consider a debt to capital level of 50% or greater to be aggressive or highly leveraged for utilities."[56] Fitch affirmed that it expects regulated utilities "to extend their conservative balance sheet stance," and employ "a judicious mix of debt and equity to finance high levels of planned investments."[57]

Q. WHAT DOES THIS EVIDENCE SUGGEST WITH RESPECT TO NWE'SPROPOSED CAPITAL STRUCTURE?

A. Based on my evaluation, I concluded that NWE's requested capital structure represents a reasonable mix of capital sources from which to calculate the Company's overall rate of return. NWE's 56.1 percent common equity ratio is consistent with the range of capitalizations maintained by the Combination Utility Proxy Group, and it is entirely comparable to the 55.1 percent average for the Gas Utility Proxy Group at fiscal year-end 2010. Similarly, the Company's requested equity ratio is well short of the 61.4 percent equity ratio based on Value Line's expectations for these gas utilities over the near-term.

While industry averages provide one benchmark for comparison, each firm must select its capitalization based on the risks and prospects it faces, as well its specific needs to access the capital markets. A public utility with an obligation to serve must maintain ready access to capital so that it can meet the service requirements of its customers. NWE's

[56] Standard & Poor's Corporation, "Ratings Roundup: U.S. Electric Utility Sector Maintained Strong Credit Quality In A Gloomy 2009," *RatingsDirect* (Jan. 26, 2010).
[57] Fitch Ratings Ltd., "U.S. Utilities, Power, and Gas 2010 Outlook," *Global Power North America Special Report* (Dec. 4, 2009).

proposed capital structure is consistent with industry benchmarks and reflects the Company's ongoing efforts to maintain its credit standing and support access to capital on reasonable terms. The reasonableness of the Company's requested capital structure is reinforced by the ongoing uncertainties associated with the utility industry, the need to accommodate the additional risks associated the Company's relatively small size, and the importance of supporting continued investment in system improvements, even during times of adverse industry or market conditions.

E. Return on Equity Recommendation

Q. PLEASE SUMMARIZE THE RESULTS OF YOUR ANALYSES.

A. Reflecting the fact that investors' required return on equity is unobservable and no single method should be viewed in isolation, I used the DCF, CAPM, and risk premium methods, and referenced expected earned rates of return for utilities. In order to reflect the risks and prospects associated with NWE's utility operations, my analyses focused on a proxy group of other utilities with both gas and electric utility operations. While I considered cost of equity estimates for a group of natural gas utilities, my evaluation indicated that NWE's risks, and its required rate of return, exceed those of the Gas Utility Proxy Group. Consistent with the fact that utilities must compete for capital with firms outside their own industry, I also referenced a proxy group of low-risk companies in the non-utility sectors of the economy.

As noted earlier, I concluded that the cost of common equity indicated by my analyses is in the 10.0 percent to 11.4 percent range, or 10.2 percent to 11.6 percent after incorporating a minimal adjustment for flotation costs.

Q. WHAT THEN IS YOUR CONCLUSION AS TO A FAIR ROE FOR NWE?

A. Considering capital market expectations, the potential exposures faced by NWE, and the economic requirements necessary to maintain financial integrity and support additional capital investment even under adverse circumstances, it is my opinion that the midpoint of this range, or 10.9 percent, represents a fair and reasonable ROE for NWE.

Apart from the results of the quantitative methods summarized above, it is crucial to recognize the importance of supporting the Company's financial position so that NWE remains prepared to respond to unforeseen events that may materialize in the future. Recent challenges in the economic and financial market environment highlight the imperative of maintaining the Company's financial strength in attracting the capital needed to secure reliable service at a lower cost for customers. The reasonableness of my recommended ROE is reinforced by the Company's relative size, the fact that NWE's investment risks generally exceed those of the proxy groups, and that current cost of capital estimates are likely to understate investors' requirements at the time the outcome of this proceeding becomes effective and beyond.

Q. DOES THIS CONCLUDE YOUR PREPARED DIRECT TESTIMONY?

A. Yes, it does.