BEFORE THE

SOUTH DAKOTA PUBLIC UTILITIES COMMISSION

DIRECT TESTIMONY OF

WILLIAM E. AVERA

On Behalf of Black Hills Power, Inc.

Docket No. EL12-_____

December 17, 2012

DIRECT TESTIMONY OF WILLIAM E. AVERA

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DIRECT TESTIMONY OF WILLIAM E. AVERA

ON BEHALF OF BLACK HILLS POWER, INC.

Docket No. EL12-_____

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 United States 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 "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 Appendix A.

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 electric utility operations of Black Hills Power, Inc. ("Black Hills Power" or "the Company"). In addition, I also examined the reasonableness of Black Hills Power's requested capital structure, considering both the specific risks faced by the Company and other industry guidelines.

Q. Please summarize the basis of your knowledge and conclusions concerning the issues to which you are testifying in this case.

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 Black Hills Power and its parent company, Black Hills Corporation ("Black Hills Corp."). I also reviewed information relating generally to capital market conditions and specifically to

investor perceptions, requirements, and expectations for electric utilities. These sources, coupled with my experience in the fields of finance and utility regulation, have given me a working knowledge of investors' requirements for Black Hills Power as it competes to attract capital, and they form the basis of my analyses and conclusions.

Q. What is the role of the ROE 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 Black Hills Power and the general conditions in the electric 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, the Capital Asset Pricing Model ("CAPM"), and an equity risk premium method ("RPM") 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, Black Hills Power's ROE

[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).

was evaluated taking into account the specific risks and potential challenges for its jurisdictional electric utility operations in South Dakota. From the cost of equity range indicated by my analyses, a fair rate of return on equity was selected taking into account the economic requirements and specific risks and potential challenges for Black Hills Power, as well as other factors (*e.g.*, flotation costs) that are properly considered in setting a fair rate of return on equity for the Company.

C. Summary of Conclusions

Q. What are your findings regarding the fair rate of return on equity for Black Hills Power?

A. Based on the results of my analyses and the economic requirements necessary to support continuous access to capital, I recommend that Black Hills Power be authorized a fair ROE in the range of 10.2% to 11.4%. The bases for my conclusion are summarized below:

- In order to reflect the risks and prospects associated with Black Hills Power's jurisdictional utility operations, my analyses focused on a proxy group of other utilities with comparable investment risks. 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;
- Based on the results of my DCF, CAPM, RPM, and expected earnings analyses, I concluded that the cost of equity is in the 10.0% to 11.2% range, or 10.2% to 11.4% after incorporating an adjustment to account for the impact of common equity flotation costs;
- The reasonableness of an ROE range of 10.2% to 11.4% for Black Hills Power is also supported by the greater uncertainties implied by the Company's smaller size and higher risk measures relative to the proxy utilities, as well as the expected upward trend in long-term capital costs; and,
- As reflected in the testimony of Brian G. Iverson, Black Hills Power is requesting a fair ROE of 10.25% to balance customer impact during these challenging economic times with the Company's need to maintain is financial integrity and access to capital. This 10.25% ROE falls at the bottom of my recommended range and, in my professional opinion, represents a conservative rate of return on common equity for Black Hills Power.

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 Black Hills Power 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 Black Hills Power's capital structure?

A. Based on my evaluation, I concluded that a common equity ratio of 53% represents a reasonable capitalization for Black Hills Power. This conclusion was based on the following findings:

- The common equity ratio implied by the Company's capital structure is consistent with the range of capitalizations maintained by the proxy group of electric utilities based on data at year-end 2011 and near-term expectations;
- The additional uncertainties associated with Black Hills Power's relative risk and size warrant a more conservative financial posture; and,
- The requested capitalization reflects the need to support the credit standing and financial flexibility of Black Hills Power as the Company seeks to fund system investments and meet the requirements of customers.

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 Black Hills Power. In addition, it examines the risks and prospects for the electric utility industry and conditions in the capital markets and the general economy. An understanding of the fundamental factors driving the risks and

prospects of electric utilities is essential in developing an informed opinion of investors' expectations and requirements that are the basis of a fair rate of return.

A. Black Hills Power, Inc.

Q. Briefly describe Black Hills Power.

A. A wholly owned subsidiary of Black Hills Corp., the Company is primarily engaged in the generation, transmission, and distribution of electric power to over 68,000 customers within a 9,300 square mile area in western South Dakota, northeastern Wyoming, and Southeastern Montana. Approximately 90 percent of Black Hills Power's retail electric revenues in 2011 were generated in South Dakota. During the most recent fiscal year, Black Hills Power's energy deliveries totaled approximately 3.3 million megawatt hours. The Company's revenue mix was comprised of 17 percent residential, 22 percent commercial, and 12 percent industrial sales revenue, with 11 percent from contract wholesale, 37 percent wholesale off-system, and 1 percent municipal and other. As of December 31, 2011, Black Hills Power had total assets of approximately $667 million, with operating revenues for the year totaling approximately $233 million.

Black Hills Power's existing generating units, located in South Dakota and Wyoming, provide total generating capacity of approximately 491 megawatts ("MW"), with coal-fired capacity accounting for approximately 60 percent of company-owned facilities. In addition to its own generating capacity, Black Hills Power also relies on power purchases, which provided approximately 50 percent of its total energy needs during 2011.

Black Hills Power's transmission and distribution facilities consist of approximately 618 miles of high voltage lines and 2,999 miles of lower voltage lines. In addition, Black Hills Power is 35 percent owner of an AC-DC-AC transmission tie that provides an

interconnection between the Western and Eastern transmission grids with a total transfer capacity of 400 MW. In connection with certain wholesale sales, Black Hills Power also has firm transmission access to deliver power on specific segments of PacifiCorp's transmission system. The Company's retail electric operations are subject to the jurisdiction of the SDPUC, the Montana Public Service Commission, and the Wyoming Public Service Commission.

Q. Where does Black Hills Power obtain the capital used to finance its investment in electric utility plant?

A. As a wholly-owned subsidiary of Black Hills Corp., the Company obtains common equity capital solely from its parent, whose common stock is publicly traded on the New York Stock Exchange. In addition to capital supplied by Black Hills Corp., the Company also issues debt securities directly under its own name.

Q. What credit ratings have been assigned to Black Hills Power?

A. Black Hills Power has been assigned a corporate credit rating of "BBB-" by Standard & Poor's Corporation ("S&P"), which represents the lowest rung on the ladder of the investment grade scale. Moody's Investor Services, Inc. ("Moody's") has established an issuer credit rating of "Baa2" for the Company, while Fitch Ratings Ltd. ("Fitch") has assigned an issuer default rating of "BBB" to Black Hills Power.

Q. Does the Company anticipate the need for additional capital going forward?

A. Yes. Black Hills Power will require capital investment to provide for necessary maintenance and replacements of its utility infrastructure, as well as to fund new investment in electric generation, transmission and distribution facilities. Support for the Company's

financial integrity and flexibility will be instrumental in attracting the capital required to meet these fund needs in an effective manner.

B. Risks for Black Hills Power

Q. How have investors' risk perceptions for the utility industry evolved?

A. There has been steady erosion in credit quality throughout the electric power industry for more than a decade, both as a result of revised perceptions of the risks in the industry and the weakened finances of industry participants themselves. In December 2009, S&P observed with respect to the industry's future that:

> Looming costs associated with environmental compliance, slack demand caused by economic weakness, the potential for permanent demand destruction caused by changes in consumer behavior and closing of manufacturing facilities, and numerous regulatory filings seeking recovery of costs are some of the significant challenges the industry has to deal with.[3]

Similarly, Moody's noted:

> [A] sustained period of sluggish economic growth, characterized by high unemployment, could stress the sector's recovery prospects, financial performance, and credit ratings. The quality of the sector's cash flows are already showing signs of decline, partly because of higher operating costs and investments.[4]

Moody's concluded, "we also see the sector's overall business and operating risks increasing."[5]

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[3] Standard & Poor's Corporation, "U.S. Regulated Electric Utilities Head Into 2010 With Familiar Concerns," *RatingsDirect* (Dec. 28, 2009).

[4] Moody's Investors Service, "U.S. Electric Utilities: Uncertain Times Ahead; Strengthening Balance Sheets Now Would Protect Credit," *Special Comment* (Oct. 28, 2010).

[5] Moody's Investors Service, "Regulation Provides Stability As Risks Mount," *Industry Outlook* (Jan. 19, 2011).

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 fuel costs due to ongoing price volatility in the spot markets, and investors recognize the potential for further turmoil in energy markets. In times of extreme volatility, utilities can quickly find themselves in a significant under-recovery position with respect to power costs, which can severely stress liquidity.

While current expectations for significantly lower wholesale power prices reflect weaker fundamentals affecting current load and fuel prices, investors recognize the potential that such trends could quickly reverse. For example, recurring political crises in the Middle East have led to sharp and unexpected increases in petroleum prices. Moody's concluded that utilities remain exposed to fluctuations in energy prices, observing, "This view, that commodity prices remain low, could easily be proved incorrect, due to the evidence of historical volatility."[6] Fitch has also noted the utility industry's potential exposure to future price shocks.[7]

Q. What other financial pressures impact investors' risk assessment of Black Hills Power?

A. Investors are aware of the financial and regulatory pressures faced by utilities associated with rising costs and the need to undertake significant capital investments. S&P noted that cost increases and capital projects, along with uncertain load growth, were a significant challenge to the utility industry.[8] As Moody's observed:

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[6] Moody's Investors Service, "U.S. Electric Utilities: Uncertain Times Ahead; Strengthening Balance Sheets Now Would Protect Credit," *Special Comment* (Oct. 28, 2010).
[7] Fitch Ratings Ltd., 2012 Outlook: Utilities, Power, and Gas," *Outlook Report* (Dec. 5, 2011).
[8] Standard & Poor's Corporation, "Industry Economic And Ratings Outlook," *RatingsDirect* (Feb. 2, 2010).

> [W]e also see the sector's overall business risk and operating risks increasing, owing primarily to rising costs associated with upgrading and expanding the nation's trillion dollar electric infrastructure.[9]

While enhancing the infrastructure necessary to meet the energy needs of customers is certainly desirable, the magnitude of the associated capital expenditures imposes additional financial responsibilities that are heightened during times of capital market turmoil. As S&P recently noted:

> To fund future capital spending, companies will need access to external capital markets for incremental funding beyond their internally generated cash – and maintaining solid credit quality will help them do so in a cost-effective and timely manner. … With the anticipated rise in capital spending needs, maintaining access to both the debt and equity markets, at favorable terms, will be crucial for these companies.[10]

The Company's plans include construction of a new gas-fired generating facility, and Moody's has noted that this "poses additional challenges to the financial profile of the company."[11] Investors are aware of the challenges posed by rising costs and burdensome capital expenditure requirements, especially in light of ongoing capital market and economic uncertainties.

Q. What other considerations affect investors' evaluation of Black Hills Power?

A. Investors also recognize that utilities are confronting increased environmental pressures that could impose significant uncertainties and costs. Moody's noted that, "the sector is exposed to increasingly stringent environmental mandates."[12] While the momentum for carbon emissions legislation has slowed, expectations for eventual regulations continue to

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[9] Moody's Investors Service, "Regulation Provides Stability As Risks Mount," *Industry Outlook* (Jan. 19, 2011).
[10] Standard & Poor's Corporation, "U.S. Utilities' Capital Spending Is Rising, And Cost Recovery Is Vital," *RatingsDirect* (May 14, 2012).
[11] Moody's Investors Service, "Credit Opinion: Black Hills Power, Inc.," *Global Credit Research* (Oct. 19, 2012).
[12] Moody's Investors Service, "Regulation Provides Stability As Risks Mount," *Industry Outlook* (Jan. 19, 2011).

pose uncertainty, especially for utilities like Black Hills Power, which rely significantly on coal-fired generating capacity. Fitch recently noted that it, "expects the thrust of the EPA's agenda will continue to challenge the creditworthiness of issuers in the utility and power sector."[13]

C. Impact of Capital Market Conditions

Q. What are the implications of recent capital market conditions?

A. Investors have recently faced a myriad of challenges and uncertainties, with Value Line recently observing, "The situation is notably worse on the global front, where China is growing more slowly and Europe's outlook is deteriorating, particularly across its southern tier."[14] Meanwhile, there is ongoing speculation that the economy remains exposed to a potential "double-dip" recession, with unemployment remaining stubbornly high, concern over the "fiscal cliff" of mandated tax hikes and spending cuts scheduled for year-end, and continued weakness plaguing the real estate sector.

While stock prices have trended higher, market sentiment remains highly sensitive to disappointment, and Value Line recently noted, "we caution that stocks are now more richly valued, making them vulnerable to possible event risks."[15] The dramatic rise in the price of gold also attests to investors' heightened concerns over prospective challenges and risks, including the overhanging threat of inflation and renewed economic turmoil. S&P noted that, "The effect of a potential financial collapse in the eurozone spreading to our

[13] Fitch Ratings Ltd., New EPA Rules: Ready or Not," *Special Report* (Mar. 1, 2012).
[14] The Value Line Investment Survey, *Selection and Opinion* (Oct. 12, 2012).
[15] The Value Line Investment Survey, *Selection & Opinion* (Sep. 21, 2012).

shores is at the top of the list of events that could push the U.S. into recession."[16] With respect to utilities, Moody's has noted the dangers to credit availability associated with potential turmoil in the global credit markets.[17]

Q. Do current capital market conditions provide a representative basis on which to evaluate a fair ROE?

A. No. Current capital market conditions reflect the legacy of the Great Recession, but they are not representative of what investors expect in the future. As discussed earlier, investors have had to contend with a level of economic uncertainty and capital market volatility that has been unprecedented in recent history. The ongoing potential for renewed turmoil in the capital markets has been seen repeatedly, with common stock prices exhibiting the dramatic volatility that is indicative of heightened sensitivity to risk. In response to heightened uncertainties, investors have repeatedly sought a safe haven in U.S. government bonds.

In an effort to jumpstart a flagging economy and bolster employment, the Federal Reserve has continued its policy of keeping short-term interest rates near zero, and implementing measures designed to push long-term rates to historically low levels. In September 2011, for example, the Federal Reserve announced "Operation Twist," involving the exchange of short-term Treasury instruments for longer-term government bonds, in an effort to put downward pressure on long-term interest rates. In addition, the Federal Reserve has repeatedly implemented "quantitative easing," which involves the central bank's purchase of long-term financial assets on the secondary market, in order to affect a reduction in long-term borrowing costs. While the Federal Reserve's actions have directly

[16] Standard & Poor's Corporation, "Economic Research: U.S. Economic Forecast: Just Like Ol' Times," *RatingsDirect* (Jan 12, 2012).
[17] Moody's Investors Service, "Regulation Provides Stability As Risks Mount," *Industry Outlook* (Jan. 19, 2011).

impacted the yields on government securities, they have continued to moderate corporate debt costs as well.

Q. How do current yields on public utility bonds compare with what investors have experienced in the past?

A. The yields on utility bonds are at their lowest levels in modern history. Figure WEA-1, below, compares the current yield on long-term, triple-B rated utility bonds with those prevailing since 1968:

FIGURE WEA-1
BBB UTILITY BOND YIELDS – CURRENT VS. HISTORICAL

As illustrated above, prevailing capital market conditions, as reflected in the yields on triple-B utility bonds, are an anomaly when compared with historical experience.

Q. Do investors anticipate that these low interest rates will continue into the future?

A. No they do not. It is widely anticipated that as the economy stabilizes and resumes a more robust pattern of growth, long-term capital costs will increase significantly from present

levels. 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 Energy Information Administration ("EIA"):[18]

TABLE WEA-1
INTEREST RATE TRENDS

	Current (a)	2013	2014	2015	2016	2017
30-Yr. Treasury						
Value Line (b)	2.8%	3.7%	4.0%	4.6%	5.0%	--
IHS Global Insight (c)	2.8%	3.7%	4.1%	4.6%	5.4%	5.5%
Blue Chip (d)	2.8%	3.7%	4.2%	4.9%	5.3%	5.5%
AAA Corporate						
Value Line (b)	3.6%	4.4%	4.7%	5.5%	6.0%	
IHS Global Insight (c)	3.6%	4.4%	4.7%	5.5%	6.2%	6.3%
Blue Chip (d)	3.6%	4.4%	4.9%	5.6%	6.0%	6.2%
S&P (e)	3.6%	4.0%	4.7%	5.5%		
AA Utility						
IHS Global Insight (c)	3.8%	4.8%	5.2%	6.0%	6.7%	6.9%
EIA (f)	3.8%	5.0%	5.8%	6.7%	7.0%	7.1%

(a) Based on monthly average bond yields for the six-month period Apr. 2012 - Sep. 2012 reported at www.credittrends.moodys.com and http://www.federalreserve.gov/releases /h15/data.htm.
(b) Value Line Investment Survey, Forecast for the U.S. Economy (Aug. 24, 2012)
(c) IHS Global Insight, *U.S. Economic Outlook* at 19 (May 2012)
(d) *Blue Chip Financial Forecasts,* Vol. 31, No. 6 (Jun. 1, 2012)
(e) Standard & Poor's Corporation, "U.S. Economic Forecast: Keeping The Ball In Play," *RatingsDirect* (Aug. 17, 2012)
(f) Energy Information Administration, *Annual Energy Outlook 2012* (Jun. 25, 2012)

As evidenced above, there is a clear consensus that the cost of long-term capital will be significantly higher over the 2013-2017 period than it is currently.

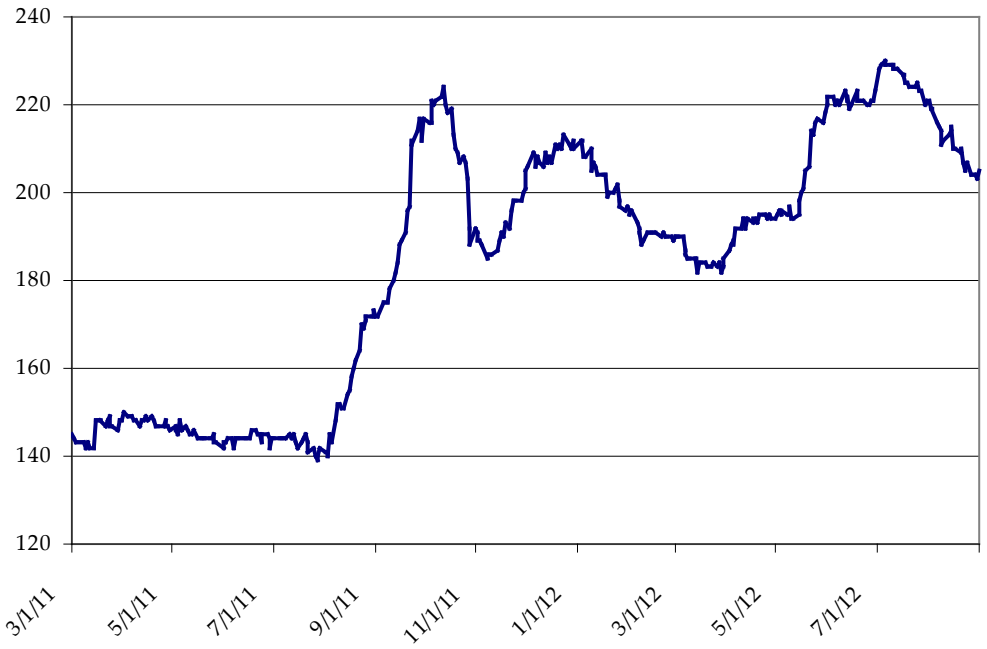
Q. Do trends in government bond yields provide a barometer for the cost of equity capital for regulated electric utilities, such as the Company?

A. No. As noted earlier, Treasury bond yields have been pushed significantly lower due to a global "flight to safety" in the face of rising political, economic, and capital market risks,

[18] Value Line does not publish projections beyond 2016, or for double-A rated utility bond yields.

and as the result of Federal Reserve policies. In turn, this has led to a significant increase in risk premiums, as illustrated by the spreads between triple-B utility bond yields and 30-year Treasuries shown in Figure WEA-2, below:

FIGURE WEA-2
YIELD SPREAD (BASIS POINTS) – BBB UTILITY – 30-YR. TREASURY



This increase in the yield spread indicates that the additional compensation investors demand to take on higher risks has increased. As S&P observed:

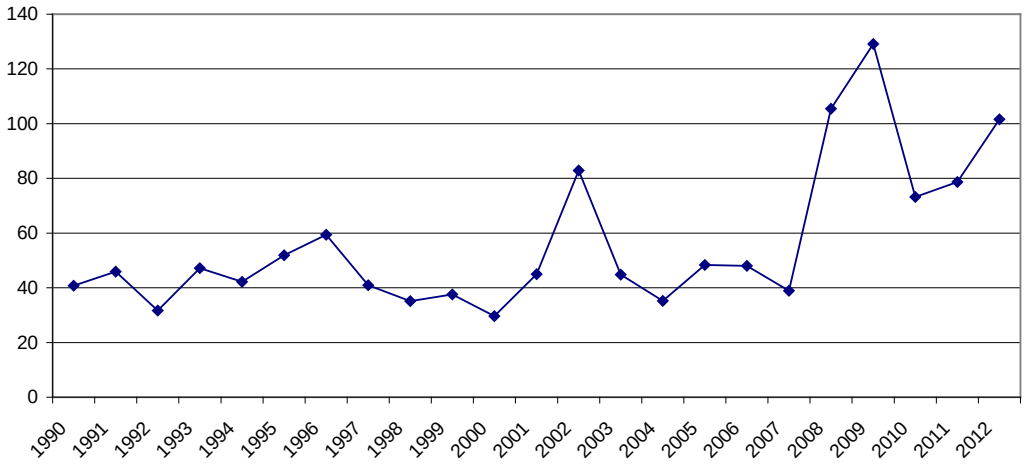
> During periods of stress, correlations frequently increase among risky asset classes such as the relationship between the return on speculative-grade bonds and the return from equities.[19]

While the cost of equity cannot be directly observed in capital markets like the yields on bonds, there is every reason to believe that the required return to attract risk capital to utilities has increased relative to the yield on utility bonds. As illustrated below in Figure

[19] Standard & Poor's Corporation, "Recent Expansion In Credit Spreads Shows Bond Market Stress, But Less Severe Than During The Financial Crisis," *RatingsDirect* (Oct. 11, 2011).

WEA-3, the spread between bonds of different ratings has clearly expanded in the last few years:

FIGURE WEA-3
YIELD SPREAD – BBB / AA UTILITY BONDS
(BASIS POINTS)



Sourc Source: Moody's Investors Service.

If investors require more additional return to bear the risk of BBB bonds relative to AA bonds, it is likely that they also require addition return to shift from the relative safety of bonds to the higher risk of utility equity.

Q. What do these events imply with respect to the ROE for Black Hills Power?

A. Current capital market conditions continue to reflect the legacy of unprecedented policy measures taken in response to recent dislocations in the economy and financial markets. As a result, current capital costs are not representative of what is likely to prevail over the near-term future, with this conclusion being demonstrated by comparisons to the historical record and independent forecasts. Recognized economic forecasting services project that long-term capital costs will increase from present levels, which should be considered in order to ensure that the ROE allowed in this proceeding will give Black Hills Power the ability to compete for capital with other opportunities of comparable risk.

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 electric utility industry requires significant new capital investment. Given the importance of reliable electric utility service, it would be unwise to ignore investors' increased sensitivity to risk and future capital market trends in evaluating a fair ROE for the Company.

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 RPM analyses conducted to estimate the cost of common equity for benchmark groups of other firms, and evaluate expected earned rates of return for utilities. Finally, I examine flotation costs, which are properly considered in evaluating a fair rate of return on equity.

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 widely 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 generally 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 company 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.

B. Comparable Risk Proxy Groups

Q. How did you implement these quantitative methods to estimate the cost of common equity for Black Hills Power?

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 group of utilities did you rely on for your analysis?

A. In order to reflect the risks and prospects associated with Black Hills Power's jurisdictional utility operations, my DCF analyses focused on a reference group of other utilities composed of those companies classified by The Value Line Investment Survey ("Value Line") as electric utilities with: (1) an S&P corporate credit rating of "BBB+", "BBB", or "BBB-", (2) an S&P Stock Quality Ranking of "B+" or greater, and (3) a Value Line Safety

Rank of "2" or "3". In addition, I excluded two firms that otherwise would have been in the proxy group, but are not appropriate for inclusion because they are in the process of a major acquisition or divestiture (Entergy Corp. and ITC Holdings Corp.). These criteria resulted in a proxy group composed of twenty-eight companies, which I will refer to as the "Utility Group."

Q. What other proxy group did you consider in evaluating a fair ROE for Black Hills Power?

A. Under the regulatory standards established by *Hope* and *Bluefield*, the salient criterion in establishing a meaningful benchmark to evaluate a fair rate of return 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 low-risk risk companies in the non-utility sectors of the economy. I refer to this group as the "Non-Utility 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. Indeed, modern portfolio theory is built

on the assumption that rational investors will hold a diverse portfolio of stocks, not just companies in a single industry.

Q. Is it consistent with the *Bluefield* and *Hope* cases to consider investors' required ROE for non-utility companies?

A. Yes. The cost of equity capital 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.[20]

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, 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.

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

Q. Does consideration of the results for the Non-Utility 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 by the industry falling into favor or disfavor by analysts. The result of such distortions would be to bias the DCF estimates for utilities. Because the Non-Utility 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.

Q. What criteria did you apply to develop the Non-Utility Group?

A. My comparable risk proxy group was composed of those United States 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 0.60 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 Black Hills Power?

A. Table WEA-2 below compares the Utility Group and Non-Utility Group with Black Hills Power across four key indicia of investment risk:[21]

TABLE WEA-2
COMPARISON OF RISK INDICATORS

	S&P	Value Line		
	Credit	Safety	Financial	
	Rating	Rank	Strength	Beta
Electric Utility Group	BBB	2	B++	0.74
Non-Utility Group	A	1	A+	0.58
Black Hills Power	BBB-	3	B+	0.80

Q. What does this comparison indicate regarding investors' assessment of the relative risks of your proxy groups?

A. As discussed earlier, Black Hills Power is assigned a corporate credit rating of "BBB-" by S&P, which falls below the average corporate credit rating for the Utility Group. Similarly, the average Value Line risk indicators for the Utility Group also suggest less risk than investors would associate with Black Hills Corp. 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 firm-specific factors, indicates that investors would likely conclude that the overall investment risks for Black Hills Power are greater than those of the firms in the Utility Group.

With respect to the Non-Utility Group, its average corporate credit rating is four notches higher than the Company's "BBB-" rating. Similarly, its average Safety Rank and Financial Strength Rating are both superior to the values for Black Hills Corp. and the

[21] Because Black Hills Power does not have publicly traded common stock, the Value Line risk measures shown reflect those published for its parent, Black Hills Corp.

groups of utilities, with its 0.58 average beta also suggesting less risk. The indicators of investment risk considered in my analysis provide a sound, objective, and consistent basis to evaluate relative risks across companies and industry sectors. These measures incorporate a broad spectrum of risks, including financial and business position, the impact of regulation, relative size, and exposure to company specific factors, and they apply equally to regulated and unregulated firms. Indeed, the core idea of modern portfolio theory is that investors will diversify their holdings across multiple firms and industry groups, so that the risk of a stock is directly proportional to its beta, not the extent of competition or the freedom to set prices.

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. The 13 companies that make up the Non-Utility Group are representative of the pinnacle of corporate America. These firms, which include household names such as Coca-Cola, Colgate-Palmolive, Kellogg, and Wal-Mart, have long corporate histories, well-established track records, and exceedingly conservative risk profiles.[22] These companies have a long history of dividend payments, with the average dividend yield for the group approaching 3%. Moreover, because of their significance and name recognition, these companies receive intense scrutiny by the investment community, which increases confidence that published growth estimates are representative of the consensus expectations reflected in common stock prices.

[22] In addition to the risk measures shown in Table WEA-2, the firms in the Non-Utility Group have virtually no financial leverage, with an average market value capitalization of approximately 90% common equity.

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. The formula for 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:[23]

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

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.

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 Black Hills Power. This form of the model is most commonly relied on to evaluate the cost of common equity for traditional regulated utilities and the method most often referenced by regulators.

[23] 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. 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 did you determine the dividend yield for the Utility Group?

A. For D_1, I used estimates of dividends to be paid by each of these utilities over the next 12 months, obtained from Value Line. This annual dividend was then divided by a 30-day average stock price to arrive at the expected dividend yield for each utility. The expected dividends, stock prices, and resulting dividend yields for the firms in the utility proxy group are presented on page 1 of Exhibit WEA-2. As shown there, dividend yields for the firms in the Utility Group ranged from 2.8% to 5.9%.

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 neither representative of long-term growth for the utility industry nor 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. Implementation of the 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 electric utilities falling from approximately 80% historically to on the order of 60%.[24] 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.

[24] *See, e.g.*, The Value Line Investment Survey (Sep. 15, 1995 at 161, Aug. 24, 2012 at 138).

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 per share ("EPS"), 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 requirements is well accepted in the investment community, and surveys of analytical techniques relied on by professional analysts indicate that growth in earnings is far more influential that trends in dividends per share ("DPS"). Apart from Value Line, investment advisory services do not generally publish comprehensive DPS growth projections, and this scarcity of dividend growth rates relative to the abundance of earnings forecasts attests to their relative influence. The fact that securities analysts focus on EPS growth, and that dividend growth rates are not routinely published, indicates that projected EPS growth rates are likely to provide a superior indicator of the future long-term growth expected by investors.

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 Did Professor Myron J. Gordon, who originated the DCF approach, recognize the pivotal role that earnings play in forming investors' expectations?

A. Yes. Dr. Gordon specifically recognized that "it is the growth that investors expect that should be used" in applying the DCF model and he concluded:

A number of considerations suggest that investors may, in fact, use earnings growth as a measure of expected future growth."[25]

Q. What are security analysts currently projecting in the way of growth for the firms in the Utility Group?

A. The earnings growth projections for each of the firms in the Utility Group reported by Value Line, IBES, Thomson Reuters ("IBES"), and Zacks Investment Research ("Zacks") are displayed on page 2 of Exhibit WEA-2.[26]

Q. Some argue that analysts' assessments of growth rates are biased. Do you believe these projections are appropriate for estimating investors' required return using the DCF model?

A. Yes, I do. 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. The market for investment guidance is intensely competitive, and securities analysts are personally and professionally motivated to provide the most accurate assessment possible of future growth trends. If financial analysts' forecasts do not add value to investors' decision making, then it is

[25] Gordon, Myron J., "The Cost of Capital to a Public Utility," *MSU Public Utilities Studies* at 89 (1974).
[26] Formerly I/B/E/S International, Inc., IBES growth rates are now compiled and published by Thomson Reuters.

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.[27]

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

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 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 Utility Group?

A. The sustainable, "br+sv" growth rates for each firm in the Utility 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 common equity estimates were implied for the Utility 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 page 3 of 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 ROE 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, 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. 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.[28]

The practice of eliminating low-end outliers has been affirmed in numerous FERC proceedings,[29] and in its April 15, 2010 decision in *SoCal Edison*, FERC affirmed that, "it

[28] *Southern California Edison Company*, 92 FERC ¶ 61,070 at p. 22 (2000).
[29] *See, e.g., Virginia Electric Power Co.*, 123 FERC ¶ 61,098 at P 64 (2008).

is reasonable to exclude any company whose low-end ROE fails to exceed the average bond yield by about 100 basis points or more."[30]

Q. What benchmarks did you consider in evaluating the DCF results for the proxy groups?

A. As noted earlier, the average S&P corporate credit rating for the Utility Group is "BBB", while Black Hills Power is rated "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 4.8% in October 2012.[31] It is inconceivable that investors are not requiring a substantially higher rate of return for holding common stock.

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 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 7.24% over the period 2013-2017:

[30] *Southern California Edison Co.*, 131 FERC ¶ 61,020 at P 55 (2010) ("*SoCal Edison*").
[31] Moody's Investors Service, http://credittrends.moodys.com/chartroom.asp?c=3.

TABLE WEA-3
IMPLIED BBB BOND YIELD

	2013-17
Projected AA Utility Yield	
IHS Global Insight (a)	5.92%
EIA (b)	6.33%
Average	6.13%
Current BBB - AA Yield Spread (c)	1.11%
Implied Triple-B Utility Yield	**7.24%**

(a) IHS Global Insight, U.S. Economic Outlook at 19 (May 2012)
(b) Energy Information Administration, Annual Energy Outlook 2012 (Jun. 25, 2012)
(c) Based on monthly average bond yields from Moody's Investors Service for the six-month period May 2012 - Oct. 2012

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 over 200 basis points over the period 2012 through 2018.[32]

Q. What does this test of logic imply with respect to the DCF results for the Utility Group?

A. As highlighted on page 3 of Exhibit WEA-2, low-end DCF estimates ranged from –8.2% to 6.9%, with many of these values being below current yields on utility bonds. 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 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.

[32] *Blue Chip Financial Forecasts*, Vol. 31, No. 6 (Jun. 1, 2012).

Q. Do you also recommend excluding estimates at the high end of the range of DCF results?

A. Yes. It is just as important to eliminate high-end outliers as low-end outliers. 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 the DCF model.[33] In my current analysis, the upper end of the cost of common equity range produced for the Regional Group was set by a cost of equity of 29.0%. When compared with the balance of the remaining estimates, this value is implausible and should be excluded in evaluating the results of the DCF model.

Q. Is there a basis to exclude other DCF estimates at the high end of the range?

A. No. After excluding the 29.0% value discussed above, the upper end of the DCF range for the Utility Group was set by a cost of equity estimates of 13.8% and 13.7%. While cost of equity estimates above 12.0% may exceed the majority of the remaining estimates, remaining low-end estimates of 7.1% are assuredly far below investors' required rate of return. These high-end estimates also fall far below the thresholds established by FERC. Taken together and considered along with the balance of the DCF estimates, these values provide a reasonable basis on which to evaluate investors' required rate of return.

Q. What cost of equity estimates are implied by your DCF results for the Utility Group?

A. As shown on page 3 of Exhibit WEA-2 and summarized in Table WEA-4, below, after eliminating illogical values, application of the constant growth DCF model resulted in the following cost of equity estimates:

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[33] See, *e.g.*, *Bangor-Hydro Electric Co.*, 109 FERC ¶ 61,147 at P 205 (2004). Under FERC's test, cost of equity estimates of 17.7 percent or greater are considered extreme outliers, as are estimates based on growth rates of 13.3 percent or higher.

TABLE WEA-4
DCF RESULTS –UTILITY GROUP

	Cost of Equity	
Growth Rate	**Average**	**Midpoint**
Value Line	9.6%	10.5%
IBES	9.5%	10.0%
Zacks	9.3%	9.8%
br + sv	8.9%	10.5%

Q. What were the results of your DCF analysis for the Non-Utility Group?

A. I applied the DCF model to the Non-Utility Group in exactly the same manner described earlier for the Utility Group. The results of my DCF analysis for the Non-Utility 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 low- and high-end values, application of the constant growth DCF model resulted in the following cost of equity estimates:

TABLE WEA-5
DCF RESULTS – NON-UTILITY GROUP

	Cost of Equity	
Growth Rate	**Average**	**Midpoint**
Value Line	11.4%	10.6%
IBES	10.9%	10.5%
Zacks	11.3%	10.8%
br + sv	11.9%	12.3%

As discussed earlier, reference to the Non-Utility 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. How can you reconcile these DCF results for the Non-Utility Group against the significantly lower estimates produced for your comparable-risk group of utilities?

A. First, it is important to be clear that the higher DCF results for the Non-Utility Group cannot be attributed to risk differences. As I documented earlier, 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 Group and Black Hills Power. The objective evidence provided by these observable risk measures rules out a conclusion that the higher non-utility DCF estimates are associated with higher investment risk.

Rather, the divergence between the DCF results for these groups of utility and non-utility firms can be attributed to the fact that DCF estimates invariably depart from the returns that investors actually require because their expectations may not be captured by the inputs to the model, particularly the assumed growth rate. Because the actual cost of equity is unobservable, and DCF results inherently incorporate a degree of error, the cost of equity estimates for the Non-Utility Group provide an important benchmark in evaluating a fair ROE for Black Hills Power. There is no basis to conclude that DCF results for a group of utilities would be inherently more reliable than those for firms in the competitive sector, and the divergence between the DCF estimates for the groups of utilities and the Non-Utility Group 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 Utility Group based on a forward-looking estimate for investors' required rate of return from common stocks is presented on Exhibit WEA-6. 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 obtained from Value Line, and 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 384 individual firms, current estimates imply an average growth rate over the next five years of 10.3 percent. Combining this average growth rate with a year-ahead dividend yield of 2.6 percent results in a current cost of common equity estimate for the market as a whole (R_m)

of approximately 12.9 percent. Subtracting a 2.9 percent risk-free rate based on the average yield on 30-year Treasury bonds produced a market equity risk premium of 10.0 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.[34]

As shown on Exhibit WEA-6, multiplying the 9.0 percent market risk premium by the respective Value Line betas for the firms in the Utility Group, and then adding the resulting risk premiums to the average long-term Treasury bond yield, results in an average indicated cost of common equity of 11.4 percent.

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.[35]

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.

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[34] Morin, Roger A., "New Regulatory Finance," *Public Utilities Reports* at 71 (2006).
[35] *Morningstar*, "Ibbotson SBBI 2012 Valuation Yearbook," at p. 85 (footnote omitted).

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 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.[36] These premiums correspond to the size deciles of publicly traded common stocks, and range from a premium of 6.1% for a company in the first decile (market capitalization less than $207 million), to a reduction of 38 basis points for firms in the tenth decile (market capitalization between $15.5 billion and $354.4 billion). Accordingly, my CAPM analyses incorporated an adjustment to recognize the impact of size distinctions by market capitalization that the beta value does not otherwise capture, but which is acknowledged by empirical research.

Q. What cost of equity estimate was indicated for the Utility Group based on this forward-looking application of the CAPM?

A. As shown on page 1 of Exhibit WEA-6, application of the forward-looking CAPM approach resulted in an average unadjusted ROE estimate of 10.2%.[37] After adjusting for the impact of firm size, the CAPM approach implied an average cost of equity of 11.1%, with a midpoint cost of equity estimate of 10.9%.

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

[37] The midpoint was also 10.2%.

Q. Did you also apply the CAPM using forecasted bond yields?

A. Yes. As discussed earlier, there is widespread consensus that interest rates will increase materially as the economy continues to strengthen. Accordingly, in addition to the use of current bond yields, I also applied the CAPM based on the forecasted long-term Treasury bond yields developed based on projections published by Value Line, IHS Global Insight and Blue Chip. As shown on page 2 of Exhibit WEA-6, incorporating a forecasted Treasury bond yield for 2013-2017 implied a cost of equity of approximately 10.7% for the Utility Group, or 11.7% after adjusting for the impact of relative size. The midpoints of the unadjusted and size adjusted cost of equity ranges were 10.6% and 11.3%, respectively.

Q. Should the CAPM approach be applied using historical rates of return?

A. No. While investors undoubtedly consider historical information as one facet in their evaluation of future expectations, the cost of capital is a forward-looking concept. Because the CAPM is focused solely on the perceptions of today's capital market investors, it should not be applied using historical rates of return. The CAPM cost of common equity estimate is calibrated from investors' required risk premium between Treasury bonds and common stocks. As noted earlier, investors have repeatedly sought a safe haven in U.S. government bonds, and the Federal Reserve has continued to employ various policy measures in order to effect a reduction in long-term borrowing costs. These policy measures and the "flight to safety" have pushed Treasury yields significantly lower. This distortion not only impacts the absolute level of the CAPM cost of equity estimate, but it affects estimated risk premiums.

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. As the Staff of the Florida Public Service Commission concluded:

> [R]ecognizing the impact the Federal Government's unprecedented intervention in the capital markets has had on the yields on long-term Treasury bonds, staff believes models that relate the investor-required return on equity to the yield on government securities, such as the CAPM approach, produce less reliable estimates of the ROE at this time.[38]

Equity risk premiums cannot be observed directly, but because common stock investors are the last in line with respect to their claim on a utility's cash flows, higher bond yield spreads imply an even steeper increase in the additional return required from an investment in common equity. In short, heightened capital market and economic uncertainties, and the increase in risk premiums demanded by investors, further undermine any reliance on historical studies to apply the CAPM.

E. Risk Premium Method

Q. Briefly describe the RPM.

A. The RPM extends the risk-return tradeoff observed with bonds to estimate investors' required rate of return on common stocks. 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 RPM is capital market oriented. However, unlike DCF models, which indirectly impute the cost of equity, risk

[38] *Staff Recommendation for Docket No. 080677-E1 - Petition for increase in rates by Florida Power & Light Company*, at p. 280 (Dec. 23, 2009).

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 RPM?

A. I based my estimates of equity risk premiums for utilities on surveys of previously authorized ROEs. Authorized ROEs presumably reflect regulatory commissions' best estimates of the cost of equity, however determined, at the time they issued their final order. Such ROEs should represent a balanced and impartial outcome 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, these data provide a logical and frequently referenced basis for estimating equity risk premiums for regulated utilities.

Q. Is it circular to consider risk premiums based on authorized returns in assessing a fair ROE for Black Hills Power?

A. No. In establishing authorized ROEs, regulators typically consider the results of alternative market-based approaches, including the DCF model. Because allowed risk premiums consider objective market data (*e.g.*, stock prices dividends, beta, and interest rates), and are not based strictly on past actions of other regulators, this mitigates concerns over any potential for circularity.

Q. How did you implement the RPM using surveys of allowed ROEs?

A. Surveys of previously authorized ROEs are frequently referenced as the basis for estimating equity risk premiums. The ROEs authorized for utilities by regulatory commissions across the U.S. are compiled by Regulatory Research Associates and published in its *Regulatory*

Focus report. In Exhibit WEA-7, the average yield on public utility bonds is subtracted from the average allowed ROE for electric utilities to calculate equity risk premiums for each year between 1974 and 2011.[39] As shown on page 3 of Exhibit WEA-7, over this period, these equity risk premiums for electric utilities averaged 3.41%, and the yield on public utility bonds averaged 8.91%.

Q. Is there any capital market relationship 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.[40] 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% 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 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.

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[39] My analysis encompasses the entire period for which published data is available.

[40] *See, e.g.*, Brigham, E.F., Shome, D.K., and Vinson, S.R., "The Risk Premium Approach to Measuring a Utility's Cost of Equity," *Financial Management* (Spring 1985); Harris, R.S., and Marston, F.C., "Estimating Shareholder Risk Premia Using Analysts' Growth Forecasts," *Financial Management* (Summer 1992).

Q. What cost of equity is implied by the RPM using surveys of allowed ROEs?

A. Based on the regression output between the interest rates and equity risk premiums displayed on page 4 of Exhibit WEA-7, the equity risk premium for electric utilities increased approximately 41 basis points for each percentage point drop in the yield on average public utility bonds. As illustrated on page 1 of Exhibit WEA-7, with the yield on average public utility bonds in October 2012 being 4.04%, this implied a current equity risk premium of 5.41% for electric utilities. Adding this equity risk premium to the average yield on triple-B utility bonds for October 2012 of 4.54% implies a current cost of equity of approximately 10.0%.

Q. What cost of equity was produced by the RPM after incorporating forecasted bond yields?

A. As shown on page 2 of Exhibit WEA-7, incorporating a forecasted yield for 2013-2017 and adjusting for changes in interest rates since the study period implied an equity risk premium of 4.36% for electric utilities. Adding this equity risk premium to the implied average yield on triple-B public utility bonds for 2013-2017 of 7.24% resulted in an implied cost of equity of approximately 11.6%.

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 electric utility industry of 10.5 percent over its forecast horizon.[41] Meanwhile, for the firms in the Utility Group specifically, the returns on common equity projected by Value Line over its three-to-five year forecast horizon are shown on Exhibit WEA-8. 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 Exhibit WEA-3. As shown on Exhibit WEA-8, Value Line's projections for the Utility Group suggested an average ROE of 10.2%, with the midpoint being 10.4%.

G. Flotation Costs

Q. What other considerations are relevant in determining the ROE for Black Hills Power?

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

[41] The Value Line Investment Survey at 138 (Aug. 24, 2012).

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.[42]

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%.[43]

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 4.3 percent implies a flotation cost adjustment on the order of 15 to 43 basis points.

IV. RETURN ON EQUITY FOR BLACK HILLS POWER

Q. What is the purpose of this section?

A. In addition to presenting the conclusions of my evaluation of a fair ROE range for Black Hills Power, 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 the Company's requested capital structure.

A. Implications for Financial Integrity

Q. Why is it important to allow Black Hills Power 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 the Company remains committed to providing reliable electric service, a utility's ability to fulfill its mandate can

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[42] Roger A. Morin, "New Regulatory Finance," *Public Utilities Reports, Inc.* at 323 (2006).

[43] 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 percentage of 3.6%.

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 ongoing capital expenditure requirements, uncertain economic and financial market conditions, uncertain environmental compliance costs, 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 power system and meet the energy needs of customers is certainly desirable, it imposes additional financial responsibilities on Black Hills Power. 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 Black Hills Power an adequate ROE.

Q. What role does regulation play in ensuring that Black Hills Power has access to capital under reasonable terms and on a sustainable basis?

A. Considering investors' heightened awareness of the risks associated with the utility industry and the damage that results when a utility's financial flexibility is compromised, the continuation of supportive regulation remains crucial to the Company's access to capital. 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.

Q. Do customers benefit by enhancing the utility's financial flexibility?

A. Yes. Providing a return on fair value that is both commensurate with those available from investments of corresponding risk and sufficient to maintain Black Hills Power's ability to attract capital, even under duress, 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 Black Hills Power'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 $1.4 billion, Black Hills Corp. is one of the smallest publicly traded electric utilities followed by Value Line, with the Utility Group having an average capitalization of approximately $8.3 billion.[44]

The magnitude of the size disparity between Black Hills Power and other firms in the utility industry has important practical implications with respect to the risks faced by investors. All else being equal, it is well accepted that smaller firms are more risky than

[44] www.valueline.com (Retrieved Oct. 15, 2012).

their larger counterparts, due in part to their relative lack of diversification and lower financial resiliency.[45] 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.[46] 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.

B. 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.

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[45] 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).

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

Q. What common equity ratio is implicit in Black Hills Power's requested capital structure?

A. The Company's capital structure is presented in Mr. Iverson's testimony. As summarized there, common equity as a percent of the capital sources used to compute the overall rate of return for Black Hills Power was 53.17%.

Q. How can the Company's requested capital structures 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 electric utilities should reflect their collective efforts to finance themselves so as to minimize capital costs while preserving their financial integrity and ability to attract capital. Moreover, these industry capital structures should also incorporate the requirements of investors (both debt and equity), as well as the influence of regulators.

Q. What was the average capitalization maintained by the Utility Group?

A. As shown on Exhibit WEA-9, for the firms in the Utility Group, common equity ratios at December 31, 2011 ranged between 32.5% and 60.9% and averaged 48.9% of long-term capital.

Q. What capitalization is representative for the Utility Group going forward?

A. As shown on Exhibit WEA-9, Value Line expects an average common equity ratio for the Utility Group of 50.0% for its three-to-five year forecast horizon.

Q. What implication does the increasing risk of the utility industry have for the capital structure maintained by Black Hills Power?

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, even during 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 against future uncertainties.[47] More recently, Moody's affirmed that it expects regulated utilities to strengthen their balance sheets in order "to prepare for more challenging business conditions."[48] 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."[49] Fitch affirmed that equity issuances are needed if regulated utilities are to maintain a balanced capital mix.[50] With respect to Black Hills Power specifically, Moody's observed

[47] 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); "U.S. Electric Utilities Face Challenges Beyond Near-Term," *Industry Outlook* (Jan. 2010).
[48] Moody's Investors Service, "U.S. Electric Utilities: Uncertain Times Ahead; Strengthening Balance Sheets Now Would Protect Credit," *Special Comment* (Oct. 28, 2010).
[49] Standard & Poor's Corporation, "Ratings Roundup: U.S. Electric Utility Sector Maintained Strong Credit Quality In A Gloomy 2009," *RatingsDirect* (Jan. 26, 2010).
[50] Fitch Ratings Ltd., "2012 Outlook: Utilities, Power, and Gas," *Outlook Report* (Dec. 5, 2011).

that "Debt financed utility capital expenditures … could create downward rating pressure."[51]

Q. What other factors do investors consider in their assessment of a company's capital structure?

A. Depending on their specific attributes, contractual agreements or other obligations that require the utility to make specified payments may be treated as debt in evaluating Black Hills Power's financial risk. Power purchase agreements ("PPAs") and leases typically obligate the utility to make specified minimum contractual payments akin to those associated with traditional debt financing and investors consider a portion of these commitments, as well as post-retirement benefit obligations, as debt in evaluating total financial risks. Because investors consider the debt impact of such fixed obligations in assessing a utility's financial position, they imply greater risk and reduced financial flexibility. In order to offset the debt equivalent associated with off-balance sheet obligations, the utility must rebalance its capital structure by increasing its common equity in order to restore its effective capitalization ratios to previous levels. These commitments have been repeatedly cited by major bond rating agencies in connection with assessments of utility financial risks.[52]

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[51] Moody's Investors Service, "Credit Opinion: Black Hills Power, Inc.," *Global Credit Research* (Oct. 19, 2012).

[52] *See, e.g.*, Standard & Poor's Corporation, "Standard & Poor's Methodology For Imputing Debt For U.S. Utilities' Power Purchase Agreements," *RatingsDirect* (May 7, 2007); Standard & Poor's Corporation, "Implications Of Operating Leases On Analysis Of U.S. Electric Utilities," *RatingsDirect* (Jan. 15, 2008); Standard & Poor's Corporation, "Top 10 Investor Questions: U.S. Regulated Electric Utilities," *RatingsDirect* (Jan. 22, 2010). The capital structure ratios presented earlier do not include imputed debt associated with power purchase agreements or the impact of other off-balance sheet obligations.

Q. What does this evidence suggest with respect to Black Hills Power's proposed capital structure?

A. Based on my evaluation, I concluded that Black Hills Power's requested capital structure represents a reasonable mix of capital sources from which to calculate the Company's overall rate of return. 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. Financial flexibility plays a crucial role in ensuring the wherewithal to meet the needs of customers, and utilities with higher leverage may be foreclosed from additional borrowing, especially during times of stress.

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

C. Return on Equity Range Recommendation

Q. Please summarize the results of your 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-6, below:

TABLE 7
SUMMARY OF QUANTITATIVE RESULTS

	Utility		Non-Utility	
DCF	**Average**	**Midpoint**	**Average**	**Midpoint**
Value Line	9.6%	10.5%	11.4%	10.6%
IBES	9.5%	10.0%	10.9%	10.5%
Zacks	9.3%	9.8%	11.3%	10.8%
br + sv	8.9%	10.5%	11.9%	12.3%
CAPM - Current Bond Yield				
Unadjusted	10.2%	10.2%		
Size Adjusted	11.1%	10.9%		
CAPM - Projected Bond Yield				
Unadjusted	10.7%	10.6%		
Size Adjusted	11.7%	11.3%		
Utility Risk Premium				
Current Bond Yields	10.0%			
Projected Bond Yields	11.6%			
Expected Earnings	10.2%	10.4%		

Q. Based on the results for the Utility Group, what is your conclusion regarding a fair ROE range?

A. Considering 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 results for the two groups of utilities, I concluded that the cost of common equity is in the 10.0% to 11.2% 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% to 11.4% range.

Q. How were the DCF estimates for the Non-Utility Group considered in arriving at your recommended ROE range?

A. As discussed earlier in my testimony, DCF estimates for the Non-Utility Group provide a useful benchmark because investors evaluate the required rate of return from utility investments against other opportunities available in the capital markets. The purpose of

regulation is to serve as a substitute for the actions of competitive markets, and expected returns for non-utility companies form the basis for the regulatory standards underlying a fair ROE.

The DCF results for the Non-Utility Group were considerably higher than those implied for the proxy group of utilities, even though objective evidence demonstrates that the investment risks of the unregulated companies are lower.[53] Moreover, there is no basis to conclude that DCF results for a group of utilities would be inherently more reliable than those for firms in the competitive sector. In fact, considering the prominence of the companies in the Non-Utility Group, the diversification afforded by considering multiple industries, and the scrutiny that analysts' afford to these paragons of American industry, the DCF results for the Non-Utility Group provide compelling evidence that suggests a downward bias in the utility DCF results. I considered this downward bias in evaluating my recommended ROE range from within the results produced for the Utility Group.

Q. What then is your conclusion as to a fair rate of return on equity range for Black Hills Power?

A. Black Hills Power's relative risk measures and small size imply a level of investment risk and required return that exceeds that of the proxy groups used to estimate the cost of equity. As discussed in Mr. Iverson's testimony, however, Black Hills Power is requesting an ROE of 10.25% in this case. Because the Company's requested ROE falls at the bottom end my recommended range it represents a conservative compromise between balancing the impact

[53] As indicated earlier, my selection criteria were specifically designed to result in a conservative, low-risk group of non-utility firms. These companies do not reflect the market as a whole; instead, they represent the pinnacle of corporate America.

on customers and the need to provide Black Hills Power with a return that is adequate to compensate investors, maintain financial integrity, and attract capital.

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 Black Hills Power 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 the Company's requested ROE is reinforced by the fact 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 pre-filed direct testimony?

A. Yes.