BEFORE THE

SOUTH DAKOTA PUBLIC UTILITIES COMMISSION

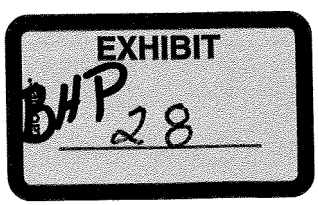
DIRECT TESTIMONY OF

WILLIAM E. AVERA

On Behalf of Black Hills Power, Inc.

Docket No. EL09-_____

September 29, 2009



DIRECT TESTIMONY OF WILLIAM E. AVERA

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ON BEHALF OF BLACK HILLS POWER, INC.

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I. INTRODUCTION

Q. Please state your name and business address.

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

Q. In what capacity are you employed?

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

A. Qualifications

Q. Please describe your qualifications and experience.

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

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

financial research, and data processing systems, and I testified in cases on a variety of financial and economic issues. Since leaving the PUCT, I have been engaged as a consultant. I have participated in a wide range of assignments involving utility-related matters on behalf of utilities, industrial customers, municipalities, and regulatory commissions. I have previously testified before the Federal Energy Regulatory Commission ("FERC"), as well as the Federal Communications Commission, the Surface Transportation Board (and its predecessor, the Interstate Commerce Commission), the Canadian Radio-Television and Telecommunications Commission, and regulatory agencies, courts, and legislative committees in 42 states, including the South Dakota Public Utilities Commission ("SDPUC" or the "Commission").

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

I have served as Lecturer in the Finance Department at the University of Texas at Austin and taught in the evening graduate program at St. Edward's University for twenty years. In addition, I have lectured on economic and regulatory topics in programs sponsored by universities and industry groups. I have taught in hundreds of educational programs for financial analysts in programs sponsored by the Association for Investment Management and Research, the Financial Analysts Review, and local financial analysts societies. These programs have been presented in Asia, Europe, and North America, including the Financial Analysts Seminar at Northwestern University. I hold the Chartered

Financial Analyst (CFA®) designation and have served as Vice President for Membership of the Financial Management Association. I have also served on the Board of Directors of the North Carolina Society of Financial Analysts. I was elected Vice Chairman of the National Association of Regulatory Commissioners ("NARUC") Subcommittee on Economics and appointed to NARUC's Technical Subcommittee on the National Energy Act. I have also served as an officer of various other professional organizations and societies. A resume containing the details of my experience and qualifications is attached as Exhibit WEA-1.

B. Overview

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to present to the SDPUC my independent assessment of the fair rate of return on equity ("ROE") for the jurisdictional 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 Black Hills Power 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 return on equity 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 and the Capital Asset Pricing Model ("CAPM"), 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 was evaluated taking into account the specific risks and potential challenges for its jurisdictional electric utility operations in South Dakota. From the cost of

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[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).

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's jurisdictional electric utility operations in South Dakota.

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 rate of return on equity in the range 11.5 to 12.5 percent. 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 sixteen 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 comparable risk companies in the non-utility sector of the economy;
- Because investors' required return on equity is unobservable and no single method should be viewed in isolation, I applied both the DCF and CAPM methods, as well as the expected earnings approach, to estimate a fair ROE for Black Hills Power:
  - After eliminating low- and high-end outliers, my DCF analyses implied cost of common equity estimates ranging from 10.7 percent to 11.6 percent for the proxy group of utilities and 11.5 percent to 13.4 percent for the group of non-utility companies;
  - Application of the CAPM approach using forward-looking data that best reflect the underlying assumptions of this approach implied a cost of common equity of 11.4 percent for the utility proxy group and 11.6 percent for the firms in the non-utility proxy group;
  - My evaluation of earned rates of return expected for utilities suggested a cost of common equity in the range of 10.5 to 11.5 percent;

- Based on these results, I concluded that the cost of equity for the proxy groups of utilities and non-utility companies is in the 11.0 percent to 12.5 percent range;

- While this range does not incorporate an explicit adjustment to account for the impact of common equity flotation costs or the greater investment risks implied by the Company's relative size and low bond rating, these are legitimate considerations in evaluating a fair ROE for Black Hills Power; Therefore the reasonable range for the fair ROE to Black Hills Power is in the 11.5 to 12.5% range.

- As reflected in the testimony of Anthony S. Cleberg, Black Hill's Power has chosen a fair ROE of 11.5% at the lower end of the reasonable range to minimize customer impact during these challenging economic times. In my professional opinion, 11.5% represents a reasonable 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:

- The turmoil in financial markets has increased sensitivity to risk and highlighted the importance of maintaining financial integrity to accommodate potential uncertainties;

- Given Black Hills Power's present credit standing, an inadequate rate of return authorized in this proceeding would further pressure the Company's financial flexibility and credit ratings;

- Sensitivity to 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.

Since the 1930s, there has not been a time when the financial markets and economy have experienced such a degree of challenge and uncertainty. Especially 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 economic and capital market conditions. In turn, the need for supportive regulation and an adequate ROE may never have been greater.

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 52 percent represents a reasonable capitalization for Black Hills Power. This conclusion was based on the following findings:

- The common equity ratio implied by Black Hills Power's capital structure is consistent with the capitalizations maintained by the proxy group of electric utilities based on data at year-end 2008 and near-term expectations;
- The additional uncertainties associated with Black Hills Power's relatively small 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 approximately 66,000 customers within a 9,300 square mile area in western South Dakota, northeastern Wyoming, and Southeastern Montana. Approximately 91 percent of Black Hills Power's retail electric revenues in 2008 were generated in South Dakota. During the most recent fiscal year, Black Hills Power's energy deliveries totaled approximately 3.4 million megawatt hours ("mWh"). The Company's revenue mix was comprised of 20 percent residential, 25 percent commercial, and 9 percent industrial sales revenue, with 11 percent from contract wholesale, 27 percent wholesale off-system, and 8 percent municipal and other. As of December 31, 2008, 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 434 megawatts ("MW"), with coal-fired capacity accounting for approximately 50 percent of company-owned facilities and natural gas and oil-fired plants making up 39 percent. In addition to its own generating capacity, Black Hills Power also relies on power purchased under long-term contracts to meet approximately 11 percent of its total capacity requirements.

Black Hills Power's transmission and distribution facilities consist of approximately 497 pole miles of high voltage lines and 2,834 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. How do fluctuations in fuel and purchased power costs affect Black Hills Power's rates?

A. In South Dakota, Black Hills Power recovers power supply costs through an electricity cost adjustment process ("ECA") that was approved by the SDPUC in December 2006. Under this process, transmission and steam plant fuel adjustment clauses will either pass along or give credits back to South Dakota customers based on actual costs incurred on a yearly basis. Meanwhile, a conditional energy cost adjustment relates to purchased power and natural gas used to generate electricity. These costs are subject to $2.0 million and $1.0 million cost bands where Black Hills Power absorbs the first $2.0 million of increased costs or retains the first $1.0 million in savings. Beyond these thresholds, costs or refunds begin to be passed on to South Dakota customers through annual calendar-year filings.

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 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. Credit rating on Black Hills Power's first mortgage bonds are "BBB", "Baa1", and "A-" by S&P, Moody's, and Fitch, respectively.

B. Risks for Black Hills Power

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

A. Implementation of structural change and related events caused investors to rethink their assessment of the relative risks associated with the utility industry. The past decade witnessed steady erosion in credit quality throughout the utility industry, both as a result of revised perceptions of the risks in the industry and the weakened finances of the utilities themselves. S&P recently reported that the majority of the companies in the utility sector now fall in the triple-B rating category,[3] and concluded:

> Credit markets are tight. Liquidity is constrained. And construction, labor, and material costs are soaring. As if that weren't enough, the U.S. electric utility sector also faces aging infrastructure, declining capacity margins, and increasing environmental compliance requirements.[4]

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[3] Standard & Poor's Corporation, "Ratings Roundup: Ratings Trend Turns Negative During First Quarter Of 2009 For U.S. Electric Utilities," (Apr. 14, 2009).

[4] Standard & Poor's Corporation, "Recovery Mechanisms Help Smooth Electric Utility Cash Flow And Support Ratings," *RatingsDirect* (Mar. 9, 2009).

Similarly, Fitch concluded that the short- and long-term outlook for investor-owned electric utilities is negative,[5] while Moody's observed, "Material negative bias appears to be developing over the intermediate and longer term due to rapidly rising business and operating risks."[6]

Q. Does Black Hills Power anticipate the need for additional capital going forward?

A. Most definitely. Black Hills Power will require capital investment to meet customer growth, provide for necessary maintenance and replacements of its utility infrastructure, as well as fund new investment in electric generation, transmission and distribution facilities. Black Hills Power anticipates significant capital requirements, including expenditures for construction of the Wygen III coal-fired generating facility, which was approved for construction in 2008. The expected cost of construction for Wygen III is approximately $247 million. Support for Black Hills Power's financial integrity and flexibility will be instrumental in attracting the capital necessary to fund these projects in an effective manner.

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 energy costs due to ongoing price volatility in the spot markets, and investors recognize the prospect of further turmoil in energy markets. Moody's has warned investors of ongoing exposure to "extremely volatile" energy commodity costs, including

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[5] Fitch Ratings, Ltd., "U.S. Utilities, Power and Gas 2009 Outlook," *Global Power North America Special Report* (Dec. 22, 2008).

[6] Moody's Investors Service, "U.S. Electric Utility Sector," *Industry Outlook* (Jan. 2008).

purchased power prices, which are heavily influenced by fuel costs,[7] and Fitch noted that rapidly rising energy costs created vulnerability in the utility industry.[8]

For example, while coal has historically provided relative stability with respect to fuel costs, prices for Central and Northern Appalachia coal spiked from approximately $45 per ton in June 2007 to over $140 per ton in September 2008, before falling back into the $50 to $70 range currently.[9] While expectations for significantly lower power prices reflect weaker fundamentals affecting current load and fuel prices, investors recognize the potential that such trends could quickly reverse. Indeed, Fitch highlighted the challenges that such dramatic fluctuations in commodity prices can have for utilities and their investors and recently noted that this uncertainty "is likely to persist in the future."[10] The rapid rise in electricity costs that can result from higher wholesale energy prices has heightened investor concerns over the implications for regulatory uncertainty. S&P noted that, while timely cost recovery was paramount to maintaining credit quality in the electric utility sector, an "environment of rising customer tariffs, coupled with a sluggish economy, portend a difficult regulatory environment in coming years."[11]

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[7] Moody's Investors Service, "Storm Clouds Gathering on the Horizon for the North American Electric Utility Sector," *Special Comment* at 6 (Aug. 2007).

[8] Fitch Ratings Ltd., "Staying Afloat: Downstream Liquidity in the Energy and Power Sectors," *Oil & Gas / Global Power Special Report* (June 16, 2008).

[9] Energy Information Administration, *Coal News and Markets* (Jun. 20 & Sep. 26, 2008, Apr. 13, 2009).

[10] Fitch Ratings, Ltd., "U.S. Utilities, Power and Gas 2009 Outlook," *Global Power North American Special Report* (Dec. 22, 2008).

[11] Standard & Poor's Corporation, "Top 10 U.S. Electric Utility Credit Issues For 2008 And Beyond," *RatingsDirect* (Jan. 28, 2008).

Q. Doesn't the ECA protect Black Hills Power from exposure to fluctuations in power supply costs?

A. To a limited extent, yes. But while approval of the ECA was a positive step and supportive of the Company's financial integrity, it does not apply to 100 percent of power costs. As S&P observed:

> Standard & Poor's notes that fuel adjustment clauses have become much more common in the utility industry, and several jurisdictions have recently reinstated previously abolished fuel clauses, but not all are created equal.[12]

Moreover, even for utilities with energy cost adjustment mechanisms in place, there can be a significant lag between the time the utility actually incurs the expenditure and when it is recovered from ratepayers. As a result, the ECA does not insulate Black Hills Power from the need to finance significant deferred power production and supply costs. Indeed, despite the significant investment of resources to manage power supply procurement, investors are aware that the best that Black Hills Power can do is to recover its actual costs.

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. As Moody's observed:

> [P]ressures are building. Utilities are facing rising operating costs and infrastructure investment needs that are prompting them to seek more-frequent requests for rate relief. Meanwhile, as energy (and other commodity) costs rise, so does the risk of a consumer backlash over electric

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[12] Standard & Poor's Corporation, "Recovery Mechanisms Help Smooth Electric Utility Cash Flow And Support Ratings," *RatingsDirect* (Mar. 9, 2009).

> rates that could prompt legislative intervention or a more contentious atmosphere between utilities and their regulators.[13]

Similarly, S&P noted that "heavy construction programs," along with rising operating and maintenance costs and volatile fuel costs, were a significant challenge to the utility industry.[14] Fitch recently echoed this assessment, concluding:

> Continued access to capital at reasonable rates in 2009 remains uncertain at a time when many utility holding groups have historically high capital investment programs and will require ongoing access to reasonably priced capital in order to fund new investment and refinance maturing debt.[15]

As noted earlier, investors anticipate that Black Hills Power will undertake significant electric utility capital expenditures. While providing the infrastructure necessary to meet the energy needs of customers is certainly desirable, it imposes additional financial responsibilities on the Company.

Q. Are environmental considerations also affecting investors' evaluation of electric utilities, including Black Hills Power?

A. Yes. Utilities are confronting increased environmental pressures that could impose significant uncertainties and costs. In early 2007 S&P cited environmental mandates, including emissions, conservation, and renewable resources, as one of the top ten credit issues facing U.S. utilities.[16] Similarly, Moody's noted that "the prospect for new environmental emission legislation – particularly concerning carbon dioxide – represents

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[13] Moody's Investors Service, "U.S. Investor-Owned Electric Utilities: Six-Month Industry Update," *Industry Outlook* (July 2008).
[14] Standard & Poor's Corporation, "Ratings Roundup: Utility Sector Experienced Equal Number Of Upgrades And Downgrades During Second Quarter Of 2008," *RatingsDirect* (Jul. 22, 2008).
[15] Fitch Ratings Ltd., "U.S. Utilities, Power and Gas 2009 Outlook," *Global Power North America Special Report* (Dec. 22, 2008).
[16] Standard & Poor's Corporation, "Top Ten Credit Issues Facing U.S. Utilities," *RatingsDirect* (Jan. 29, 2007).

the biggest emerging issue for electric utilities,"[17] while Fitch recently observed that "the structure, timing and implementation is still uncertain."[18]

At the national level, the Obama administration has taken a far more active stance towards energy and environmental policy. It has endorsed the American Clean Energy and Security Act of 2009 ("ACES"), passed by the House of Representatives on June 26, 2009. In addition to creating a comprehensive, economy-wide cap-and-trade regulatory framework, ACES would reduce carbon emissions 17 percent by 2020 compared to 2005 levels and require electric utilities to meet 20 percent of their electricity needs from renewable sources by 2020.[19] As S&P concluded, "the Obama administration's energy priorities and policies may drive future credit quality beyond 2009."[20] Compliance with these evolving standards will mean significant capital expenditures, especially for utilities like Black Hills Power that depend significantly on coal-fired generation.

C. Impact of Capital Market Conditions

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

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

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[17] Moody's Investors Service, "U.S. Investor-Owned Electric Utilities," *Industry Outlook* (Jan. 2009).

[18] Fitch Ratings, Ltd., "U.S. Utilities, Power and Gas 2009 Outlook," *Global Power North America Special Report* (Dec. 22, 2008).

[19] South Dakota has adopted a renewable portfolio objective that encourages utilities to obtain at least 10 percent of their retail electricity supply from renewable energy sources by 2015.

[20] Standard & Poor's Corporation, "Industry Report Card," *RatingsDirect* (Dec. 19, 2008).

With respect to utilities specifically, as of June 30, 2009, the Dow Jones Utility Average stock index was approximately 30 percent below the level of a year earlier. This sell-off in common stocks and the increase in utility bond yields reflect the fact that the utility industry was not immune to the impact of financial market turmoil and the ongoing economic downturn. As the Edison Electric Institute ("EEI") noted in a letter to Congressional representatives at the outset of the financial crisis, capital market uncertainties have serious implications for utilities and their customers:

> In the wake of the continuing upheaval on Wall Street, capital markets are all but immobilized, and short-term borrowing costs to utilities have already increased substantially. If the financial crisis is not resolved quickly, financial pressures on utilities will intensify sharply, resulting in higher costs to our customers and, ultimately, could compromise service reliability.[21]

Similarly, an October 1, 2008, *Wall Street Journal* report confirmed that utilities had been forced to delay borrowing or pursue more costly alternatives to raise funds.[22]

An October 2008 report on the implications of credit market upheaval for utilities noted that even high-quality companies "now have to pay an unusually high risk premium over Treasuries."[23] S&P concluded in a December 2008 review of the electric utility industry that "the abnormally low interest rate environment of the 2000's ... is a distant memory."[24] Meanwhile, a Managing Director with Fitch observed that "significantly higher regulated returns will be required to attract equity capital."[25] In December 2008, Fitch confirmed "sharp repricing of and aversion to risk in the investment community," and

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[21] *Letter to House of Representatives*, Thomas R. Kuhn, President, Edison Electric Institute (Sep. 24, 2008).
[22] Smith, Rebecca, "Corporate News: Utilities' Plans Hit by Credit Markets," *Wall Street Journal* at B4 (Oct. 1, 2008).
[23] *Rudden's Energy Strategy Report* (Oct. 1, 2008).
[24] Standard & Poor's Corporation, "Industry Report Card: U.S. Electric Utility Credit Quality Remains Strong Amid Continuing Economic Downturn," *RatingsDirect* (Dec. 19, 2008).
[25] Fitch Ratings Ltd., "EEI 2008 Wrap-Up: Cost of Capital Rising," *Global Power North America Special Report* (Nov. 17, 2008).

noted that the disruptions in financial markets and the fundamental shift in investors' risk perceptions has increased the cost of capital for utilities:

> While credit is available to investment-grade issuers in the utilities, power and gas sectors, it is more expensive, particularly when viewed against the easy money environment which prevailed for most of this decade.[26]

Fitch concluded, "The sharp increase in the cost of equity capital is a negative credit development."[27]

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

A. No one knows the future of our complex global economy. We know that the financial crisis that began in 2008 had been building for a long time, but few predicted that the economy would fall as rapidly as it has, or that corporate bond yields would rise as rapidly as they did. While conditions in the economy and capital markets appear to have stabilized, investors are apt to react swiftly and negatively to any future signs of trouble in the financial system or economy. Given the importance of reliable electric power for customers and the economy, it would be unwise to ignore investors' increased sensitivity to risk in evaluating the Company's ROE.

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

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[26] Fitch Ratings Ltd., "U.S. Utilities, Power and Gas 2009 Outlook," *Global Power North America Special Report* (Dec. 22. 2008).
[27] *Id.*

principle fundamental to capital markets. Next, I describe DCF and CAPM analyses conducted to estimate the cost of common equity for benchmark groups of comparable risk firms and evaluate expected earned rates of return for utilities. Finally, I examine flotation costs, which are properly considered in evaluating a fair 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 generally accepted that the risk-return tradeoff evidenced with long-term debt extends to all assets. Documenting the risk-return tradeoff for assets other than fixed income securities, however, is complicated by two factors. First, there is no standard measure of risk applicable to all assets. Second, for most assets – including common stock – required rates of return cannot be directly observed. Yet there is every reason to believe that investors exhibit risk aversion in deciding whether or not to hold common stocks and other assets, just as when choosing among fixed-income securities.

Q. Is this risk-return tradeoff limited to differences between firms?

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

Q. What does the above discussion imply with respect to estimating the cost of common equity for a utility?

A. Although the cost of common equity cannot be observed directly, it is a function of the returns available from other investment alternatives and the risks to which the equity capital is exposed. Because it is not readily observable, the cost of common equity for a particular utility must be estimated by analyzing information about capital market conditions generally, assessing the relative risks of the 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.

Q. Did you rely on a single method to estimate the cost of common equity for Black Hills Power?

A. No. In my opinion, no single method or model should be relied on by itself to determine a utility's cost of common equity because no single approach can be regarded as definitive. For example, a publication of the Society of Utility and Financial Analysts (formerly the National Society of Rate of Return Analysts), concluded that:

> Each model requires the exercise of judgment as to the reasonableness of the underlying assumptions of the methodology and on the reasonableness of the proxies used to validate the theory. Each model has its own way of examining investor behavior, its own premises, and its own set of simplifications of reality. Each method proceeds from different fundamental premises, most of which cannot be validated empirically. Investors clearly do not subscribe to any singular method, nor does the stock price reflect the application of any one single method by investors.[28]

Therefore, I used both the DCF and CAPM methods to estimate the cost of common equity. In addition, I also evaluated a fair ROE using an earnings approach based on investors' current expectations in the capital markets. In my opinion, comparing estimates produced by one method with those produced by other approaches ensures that the estimates of the cost of common equity pass fundamental tests of reasonableness and economic logic.

Q. Does the fact that there are different accepted methods to estimate the cost of common equity, each based on certain assumptions, imply that determining the ROE is subjective?

A. Absolutely not. The alternative approaches that I have applied to estimate the cost of common equity have considerable theoretical and practical support, and the body of knowledge on the topic of cost of capital attests to the significance of developing cost of

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[28] Parcell, David C., "The Cost of Capital – A Practitioner's Guide," *Society of Utility and Regulatory Financial Analysts* at Part 2, p. 4 (1997).

Wcapital estimates that work in the real world of financial markets. For example, the reality that investors require compensation for bearing the risk of putting their money in common stock is a fundamental tenet of the theory and practice of finance. While assumptions and judgment underlie these methods to estimate the cost of common equity, this does not imply that they are subjective or that the cost of common equity is unknowable.

Each method of estimating the cost of common equity is based on empirical evidence and accepted applications. While experts may disagree on particular nuances and details of their application, the reliability of these methods is confirmed by their use throughout the regulatory arena as well as in the worlds of investment management and corporate finance. The fact that alternative methods may give somewhat different results, or that different experts may come to different estimates using these methods, does not mean the methods are subjective or unreliable. It means simply that interpreting the results of these methods requires care and practical judgment.

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" or "BBB-",[29] (2) an S&P Stock Quality Ranking of "B", 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 did not pay common dividends (El Paso Electric Company) or are in the process of a major divestiture (Constellation Energy Group, Inc.). These criteria resulted in a proxy group composed of sixteen companies, which I will refer to as the "Utility Proxy 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. As noted in *Regulatory Finance: Utilities' Cost of Capital,* "It should be emphasized that the definition of a comparable risk class of companies does not entail similarity of operation, product lines, or environmental conditions, but rather similarity of experienced business risk and financial risk."[30] Utilities

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[29] As discussed subsequently, the average credit rating for the Utility Proxy Group is "BBB".

[30] Morin, Roger A., "Regulatory Finance: Utilities' Cost of Capital," *Public Utilities Reports, Inc.* at 58 (1994).

must compete for capital, not just against firms in their own industry, but with other investment opportunities of comparable risk. With regulation taking the place of competitive market forces, required returns for utilities should be in line with those of non-utility firms of comparable risk operating under the constraints of free competition. Consistent with this accepted regulatory standard, I also applied the DCF model to a reference group of comparable risk companies in the non-utility sectors of the economy. I refer to this group as the "Non-Utility Proxy Group".

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

A. My comparable risk proxy group was composed of those U.S. companies followed by Value Line that: 1) pay common dividends; 2) have a Safety Rank of "1"; 3) have investment grade credit ratings from S&P, and 4) have an S&P Stock Quality Ranking of "B" or higher. In addition, I also included only those firms with published earnings per share ("EPS") growth projections from at least two of the following sources: Value Line, Thomson I/B/E/S ("IBES"), First Call Corporation ("First Call"), and Zacks Investment Research ("Zacks").[31]

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

[31] Thomson Reuters separately compiles and publishes consensus securities analyst growth rates under the IBES and First Call brands.

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. S&P's Quality Ranking, which has been published since 1956, is designed to capture the long-term growth and stability of a company's earnings and dividends. The Quality Ranking system for solvent firms is based on letter classifications from "A+" (highest) to "C" (lowest).

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. These objective, published indicators incorporate consideration of a broad spectrum of risks, including financial and business position, relative size, and exposure to firm-specific factors.

Q. How do the overall risks of your proxy groups compare with Black Hills Power?

A. Table WEA-1 below compares the Utility Proxy Group and Non-Utility Proxy Group with Black Hills Power across four key indicia of investment risk. Because the Company does

not have publicly traded common stock, the S&P Quality Ranking, the Value Line Safety Rank, and beta shown reflect those published for its parent, Black Hills Corp.:

TABLE WEA-1
COMPARISON OF RISK INDICATORS

	S&P		Value Line	
Proxy Group	Credit Rating	Quality Ranking	Safety Rank	Beta
Utility	BBB	B	3	0.77
Non-Utility	A+	A-	1	0.80
Black Hills Power	BBB-	B	3	0.80

Q. Do these comparisons indicate that investors would view the firms in your proxy groups as risk-comparable to the Company?

A. Yes. 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 Proxy Group. Meanwhile, the average S&P Quality Ranking and Value Line Safety Rank for the Utility Proxy Group are identical to the values assigned to the Company's parent, while the average beta value for the Utility Proxy Group suggests slightly 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 comparable to, or greater than, those of the firms in the Utility Proxy Group.

The Non-Utility Proxy Group's average risk measures also suggest less risk than for Black Hills Power. While any differences in investment risk attributable to regulation should already be reflected in these objective measures, my analyses conservatively focus on a lower-risk group of non-utility firms.

C. Discounted Cash Flow Analyses

Q. How is the DCF model used to estimate the cost of common equity?

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

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

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

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

Q. What form of the DCF model is customarily used to estimate the cost of common equity in rate cases?

A. Rather than developing annual estimates of cash flows into perpetuity, the DCF model can be simplified to a "constant growth" form:[32]

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

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, which is the form of the model most commonly relied on to establish the cost of common equity for traditional regulated utilities and the method most often referenced by regulators.

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[32] 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 was the dividend yield for the Utility Proxy Group determined?

A. Estimates of dividends to be paid by each of these utilities over the next twelve months, obtained from Value Line, served as D_1. This annual dividend was then divided by the corresponding stock price for each utility to arrive at the expected dividend yield. The expected dividends, stock prices, and resulting dividend yields for the firms in the utility proxy group are presented on Exhibit WEA-2. As shown there, dividend yields for the firms in the Utility Proxy Group ranged from 2.3 percent to 7.7 percent.

Q. What is the next step in applying the constant growth DCF model?

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

Q. Are historical growth rates likely to be representative of investors' expectations for utilities?

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

Q. What are investors most likely to consider in developing their long-term growth expectations?

A. While the DCF model is technically concerned with growth in dividend cash flows, implementation of this DCF model is solely concerned with replicating the forward-looking evaluation of real-world investors. In the case of utilities, dividend growth rates are not likely to provide a meaningful guide to investors' current growth expectations. This is because utilities have significantly altered their dividend policies in response to more accentuated business risks in the industry, with the payout ratio for electric utilities falling from approximately 80 percent historically to on the order of 60 percent.[33] 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.

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[33] The Value Line Investment Survey (Sep. 15, 1995 at 161, Dec. 26, 2008 at 687).

As payout ratios for firms in the utility industry trended downward, investors' focus has increasingly shifted from dividends to earnings as a measure of long-term growth. Future trends in earnings, which provide the source for future dividends and ultimately support share prices, play a pivotal role in determining investors' long-term growth expectations. The importance of earnings in evaluating investors' expectations and requirements is well accepted in the investment community. As noted in *Finding Reality in Reported Earnings* published by the Association for Investment Management and Research:

> [E]arnings, presumably, are the basis for the investment benefits that we all seek. "Healthy earnings equal healthy investment benefits" seems a logical equation, but earnings are also a scorecard by which we compare companies, a filter through which we assess management, and a crystal ball in which we try to foretell future performance.[34]

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

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

The fact that investment advisory services focus primarily on growth in earnings indicates that the investment community regards this as a superior indicator of future long-term growth. Indeed, "A Study of Financial Analysts: Practice and Theory," published in the *Financial Analysts Journal*, reported the results of a survey conducted to determine

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[34] Association for Investment Management and Research, "Finding Reality in Reported Earnings: An Overview" at 1 (Dec. 4, 1996).

[35] The Value Line Investment Survey, *Subscriber's Guide* at 53.

what analytical techniques investment analysts actually use.[36] Respondents were asked to rank the relative importance of earnings, dividends, cash flow, and book value in analyzing securities. Of the 297 analysts that responded, only 3 ranked dividends first while 276 ranked it last. The article concluded:

> Earnings and cash flow are considered far more important than book value and dividends.[37]

More recently, the *Financial Analysts Journal* reported the results of a study of the relationship between valuations based on alternative multiples and actual market prices, which concluded, "In all cases studied, earnings dominated operating cash flows and dividends."[38]

Q. Do the growth rate projections of security analysts consider historical trends?

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

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

A. The earnings growth projections for each of the firms in the Utility Proxy Group reported by Value Line, IBES, First Call, and Zacks are displayed on Exhibit WEA-2.

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[36] Block, Stanley B., "A Study of Financial Analysts: Practice and Theory", *Financial Analysts Journal* (July/August 1999).
[37] *Id.* at 88.
[38] Liu, Jing, Nissim, Doron, & Thomas, Jacob, "Is Cash Flow King in Valuations?," *Financial Analysts Journal*, Vol. 63, No. 2 at 56 (March/April 2007).

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

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

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

The continued success of investment services such as Thompson Reuters and Value Line, and the fact that projected growth rates from such sources are widely referenced, provides strong evidence that investors give considerable weight to analysts' earnings projections in forming their expectations for future growth. While the projections of securities analysts may be proven optimistic or pessimistic in hindsight, this is irrelevant in

assessing the expected growth that investors have incorporated into current stock prices, and any bias in analysts' forecasts – whether pessimistic or optimistic – is irrelevant if investors share analysts' views. Earnings growth projections of security analysts provide the most frequently referenced guide to investors' views and are widely accepted in applying the DCF model. As explained in *Regulatory Finance: Utilities' Cost of Capital*:

> 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 also 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]. ... Published studies in the academic literature demonstrate that growth forecasts made by securities analysts represent an appropriate source of DCF growth rates, are reasonable indicators of investor expectations and are more accurate than forecasts based on historical growth.[39]

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,

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[39] Morin, Roger A., "Regulatory Finance: Utilities' Cost of Capital," *Public Utilities Reports, Inc.* at 154 (1994).

$g = br+sv$, 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 Proxy Group?

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

outstanding, while the equity accretion rate (v) was computed as 1 minus the inverse of the projected market-to-book ratio.

Q. What cost of common equity estimates were implied for the Utility Proxy Group using the DCF model?

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

Q. In evaluating the results of the constant growth DCF model, is it appropriate to eliminate estimates that are extreme low or high outliers?

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

Q. How did you evaluate DCF estimates at the low end of the range?

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

Q. Have similar tests been applied by regulators?

A. Yes. FERC has noted that adjustments are justified where applications of the DCF approach produce illogical results. FERC evaluates DCF results against observable yields

on long-term public utility debt and has recognized that it is appropriate to eliminate estimates that do not sufficiently exceed this threshold. In a 2002 opinion establishing its current precedent for determining ROEs for electric utilities, for example, FERC noted:

> An adjustment to this data is appropriate in the case of PG&E's low-end return of 8.42 percent, which is comparable to the average Moody's "A" grade public utility bond yield of 8.06 percent, for October 1999. Because investors cannot be expected to purchase stock if debt, which has less risk than stock, yields essentially the same return, this low-end return cannot be considered reliable in this case.[40]

More recently, in its March 27, 2009 decision in *Pioneer*, FERC concluded that it would exclude low-end ROEs "within about 100 basis points above the cost of debt."[41]

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

A. The average corporate credit rating associated with the firms in the Utility Proxy Group is "BBB". Companies rated "BBB-", "BBB", and "BBB+" are all considered part of the triple-B rating category, with Moody's monthly yields on triple-B bonds averaging approximately 6.9 percent in July 2009.[42] As highlighted on Exhibit WEA-2, three of the individual equity estimates for the firms in the Utility Proxy Group fell below utility bond yields, while two values exceeded this threshold by 100 basis points or less.[43] In light of the risk-return tradeoff principle and the test applied in *Pioneer*, 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

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[40] *Southern California Edison Company*, 92 FERC ¶ 61,070 (2000) at p. 22.
[41] *Pioneer Transmission, LLC*, 126 FERC ¶ 61,281 at P 94 (2009) ("*Pioneer*").
[42] Moody's Investors Service, www.credittrends.com.
[43] As highlighted on Exhibit WEA-2, these DCF estimates ranged from 4.7 percent to 7.4 percent.

economic logic applied by FERC, these values provide little guidance as to the returns investors require from utility common stocks and should be excluded.

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

A. Yes. The upper end of the cost of common equity range produced by the DCF analysis presented in Exhibit WEA-2 was set by an estimate of 24.6 percent for CenterPoint Energy, Inc. In addition to this extreme outlier, I determined that, when compared with the balance of the remaining estimates, two other DCF estimates should also be excluded in evaluating the results of the DCF model for the Utility Proxy Group. 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.[44]

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

A. As shown on Exhibit WEA-2 and summarized in Table WEA-2, below, after eliminating illogical low- and high-end values, application of the constant growth DCF model resulted in cost of common equity estimates ranging from 10.7 percent to 11.6 percent:

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[44] See, *e.g.*, *ISO New England, Inc.*, 109 FERC ¶ 61,147 at P 205 (2004).

TABLE WEA-2
DCF RESULTS –UTILITY PROXY GROUP

Growth Rate	Average Cost of Equity
Value Line	11.2%
IBES	11.5%
First Call	11.5%
Zacks	11.6%
br+sv	10.7%

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

A. I applied the DCF model to the Non-Utility Proxy Group in exactly the same manner described earlier for the Utility Proxy Group. The results of my DCF analysis for the Non-Utility Proxy Group are presented in Exhibit WEA-4, with the sustainable, "br+sv" growth rates being developed on Exhibit WEA-5. As shown on Exhibit WEA-4 and summarized in Table WEA-3, below, after eliminating illogical low- and high-end values, application of the constant growth DCF model resulted in cost of common equity estimates generally trending toward 12.8 percent:

TABLE WEA-3
DCF RESULTS – NON-UTILITY PROXY GROUP

Growth Rate	Average Cost of Equity
Value Line	11.5%
IBES	12.8%
First Call	12.8%
Zacks	13.4%
br+sv	12.8%

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

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 Proxy 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, with the growth rate being equal to the average of the earnings growth projections for each firm published by Value Line, IBES, First Call, and Zacks, 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 347 individual firms, current estimates imply an average growth rate over the next five years of 9.1 percent. Combining this average growth rate with a dividend yield of 4.4 percent results in a current cost of common equity estimate for the market as a whole of approximately 13.5 percent. Subtracting a 4.5 percent risk-free rate based on the average yield on 20-year Treasury bonds for July 2009 produced a market equity risk premium of 9.0 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 *Regulatory Finance: Utilities' Cost of Capital*:

> 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. . . . Value Line is the largest and most widely circulated independent investment advisory service, and exerts influence on a large number of institutional and individual investors and on the expectations of these investors.[45]

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 Proxy 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.

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[45] Morin, Roger A., "Regulatory Finance: Utilities' Cost of Capital," *Public Utilities Reports* at 65 (1994).

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

A. As shown on Exhibit WEA-7, applying the forward-looking CAPM approach to the firms in the Non-Utility Proxy Group results in an average implied cost of common equity of 11.6 percent.

Q. Do you have any observations regarding these CAPM results?

A. Yes. Applying the CAPM is complicated by the impact of the recent capital market turmoil and recession on investors' risk perceptions and required returns. The CAPM cost of common equity estimate is calibrated from investors' required risk premium between Treasury bonds and common stocks. In response to heightened uncertainties, investors have sought a safe haven in Treasury bonds and this "flight to safety" has caused the yield spreads for corporate debt to rise significantly. Economic logic would suggest that investors' required risk premium for common stocks over Treasury bonds has also increased. Thus, recent capital market conditions may cause CAPM cost of common equity estimates to understate investors' required returns for common stocks, particularly when historical data are used to calculate the market risk premium. While my application of the CAPM makes every effort to incorporate investors' forward-looking expectations, the full effect of the "flight to safety" may not be captured in my market risk premium estimate. One other obvious limitation of CAPM estimates is that beta values are customarily calculated based solely on historical data and may not accurately reflect investor's forward-looking rate of return requirements, particularly during periods of heightened uncertainty.

Q. Did your CAPM analysis rely on either geometric or arithmetic means in arriving at an equity risk premium?

A. No. Reference to arithmetic or geometric mean risk premiums is associated with applications of the CAPM that depend on historical data. In order to derive an estimate of the market equity risk premium under this approach, historical average returns on Treasury bonds are typically subtracted from those for common stocks. These average rates of return based on backward-looking data for historical time periods can be derived using both arithmetic and geometric means.

As discussed above, however, my application of the CAPM was a purely forward-looking approach, which is consistent with the underlying assumptions of this method and the standards underlying a determination of a fair rate of return. Because I looked directly at investors' current expectations in the capital markets – and not at historical rates of return – my CAPM analysis did not need to reference either the arithmetic or geometric mean of historical rates of return.

Q. Are there selected academic studies or other sources that might measure an equity risk premium that is less than what is indicated based on investors' current expectations for the stocks in the S&P 500?

A. There are a plethora of studies that examine what investors have actually realized in terms of equity returns versus stocks. Similarly, there are articles suggesting what investors should expect based on "building blocks" or other techniques. Further, there are surveys of corporate executives and others about what they expect the return differential to be over various horizons. Finally, there are projections that the managers of utility pension funds use for actuarial purposes.

None of these values is comparable to the risk premium as I have applied it in my forward-looking CAPM analysis, which is based not on some generic notion of the equity risk premium, but is derived from contemporaneous projections for individual stocks in the S&P 500. Average realized risk premiums computed over some selected time period may be an accurate representation of what was actually earned in the past, but they don't answer the question as to what risk premium investors were actually expecting to earn on a forward-looking basis during these same time periods. Similarly, calculations of the equity risk premium developed at a point in history – whether based on actual returns in prior periods or contemporaneous projections – are not the same as the forward-looking expectations of today's investors, which are premised on an entirely different set of capital market and economic expectations.

The purpose of my analysis was to determine an allowed return that would meet the regulatory requirement of allowing Black Hills Power to attract capital and maintain its financial integrity. The most appropriate benchmark for a meaningful forward-looking estimate of the return investors require from the Company is what investors are currently requiring for other investments with which Black Hills Power must compete for capital. The risk premium used in my CAPM is derived from current market data and is forward-looking in the sense of using the projected earnings estimates used by investors. It does not depend on analysis of past historical data on risk premiums nor does it purport to identify what investors will actually realize in the future, or what they should reasonably expect over the long-term. Rather it is an estimate of what investors currently require when they allocate their capital to competing investments. These current forward-looking required

returns are the touchstone of whether an authorized ROE can meet the economic standards of capital attraction and maintaining financial integrity.

Q. Why is this key distinction especially important in today's capital markets?

A. Applying the CAPM using a historical risk premium, however determined, incorrectly assumes that investors' assessment of the relative risk differences, and their 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 a result, historical CAPM approaches fail to reflect the view of real-world investors in today's capital markets and violate the standards underlying a fair rate of return, which is predicated on the opportunity to earn a return commensurate with other investments of comparable risk.

E. 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 in 2009, 11.0 percent in 2010, and 11.5 percent over its 2012-2014 forecast horizon.[46] Meanwhile, for the firms in the Utility Proxy 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 Proxy Group suggested an average ROE of 10.6 percent.

F. 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 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.

[46] The Value Line Investment Survey at 687 (June 26, 2009).

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, *Regulatory Finance: Utilities' Cost of Capital* 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.[47]

Alternatively, a study of data from Morgan Stanley regarding issuance costs associated with utility common stock issuances suggests an average flotation cost percentage of 3.6 percent.[48]

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 5.3 percent implies a flotation cost adjustment on the order of 19 to 53 basis points. While my recommendation does not include an adjustment for flotation costs, this is a legitimate consideration that should be considered in established an ROE for Black Hills Power in this case.

IV. RETURN ON EQUITY FOR BLACK HILLS POWER

Q. What is the purpose of this section?

A. This section addresses the economic requirements for Black Hills Power's fair ROE. It discusses the regulatory policy reasons for avoiding a return on equity that is not sufficient to maintain the Company's financial integrity and ability to attract capital, and evaluates the reasonableness of Black Hills Power's requested capital structure. Finally, this section presents my conclusions regarding a fair ROE range.

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[47] Roger A. Morin, "Regulatory Finance: Utilities' Cost of Capital," *Public Utilities Reports* (1994) at 166.

[48] 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%.

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 be compromised if it lacks the necessary financial wherewithal or is unable to earn a return sufficient to attract capital.

As documented earlier, the major rating agencies have warned of exposure to uncertainties associated with political and regulatory developments, especially in view of the pressures associated with ongoing capital expenditure requirements, uncertain 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. Fitch noted that:

> Regulatory risk remains a recurring theme for this year's outlook, as the pressure of a weak economic backdrop could result in political push-back to rate increase requests.[49]

The report went on to conclude, "Fitch is concerned that the recent rapid escalation in the cost of capital will not be reflected on a timely basis in utility rates."[50]

Moody's has also emphasized the need for regulatory support "in an era of broadly rising costs," noting that as cost pressures have escalated for electric utilities, so too has the importance of timely recovery through the regulatory process and the risks associated with regulatory lag.[51] S&P concluded "the quality of regulation is at the forefront of our analysis of utility creditworthiness."[52]

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[49] Fitch Ratings Ltd., "U.S. Utilities, Power and Gas 2009 Outlook," *Global Power North America Special Report* (Dec. 22, 2008).
[50] *Id.*
[51] Moody's Investors Service, "Regulatory Pressures Increase For U.S. Electric Utilities," *Special Comment* (March 2007).
[52] Standard & Poor's Corporation, "Assessing U.S. Utility Regulatory Environments," *RatingsDirect* (Nov. 7, 2008).

Q. What are the implications of Black Hills Power's relative credit standing, given the current climate in the capital markets and the challenges faced by the Company?

A. As documented earlier, the current environment poses significant challenges with respect to a utility's ability to raise capital on reasonable terms. In a recent report by S&P ranking U.S. regulated utilities from strongest to weakest, Black Hills Power was ranked 156 out of the total 176 companies with investment grade credit ratings.[53] In other words, according to S&P only 20 companies in the utility industry with investment grade ratings have a credit profile weaker than Black Hills Power. Fitch recently observed that in current credit markets, "'flight to quality' is selective within the [utility] sector, favoring companies at higher rating levels."[54] Because of Black Hills Power's weaker overall credit standing, there is little backstop in the event of a prolonged and/or worsening crisis and reduced flexibility to respond to other challenges, such as increased capital outlays or renewed energy market volatility.

Strengthening Black Hills Power's financial integrity is imperative to ensure the capability to maintain existing ratings while confronting potential challenges. As the Chairman of the New York State Public Service Commission noted in his role as spokesman for the National Association of Regulatory Utility Commissioners:

> While there is a large difference between A and BBB, there is an even brighter line between Investment Grade (BBB-/Baa3 bond ratings by S&P/Moody's, and higher) and non-Investment Grade (Junk) (BB+/Ba1 and lower). The cost of issuing non-investment grade debt, assuming the market is receptive to it, has in some cases been hundreds of basis points over the yield on investment grade securities. To me this suggests that you do not

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[53] Standard & Poor's Corporation, "Issuer Ranking: U.S. Regulated Electric Utilities, Strongest To Weakest," *RatingsDirect* (Aug. 4, 2009).

[54] Fitch Ratings Ltd., "U.S. Utilities, Power and Gas 2009 Outlook," *Global Power North America Special Report* (Dec. 22, 2008).

> want to be rated at the lower end of the BBB range because an unexpected shock could move you outside the investment grade range.[55]

As a result, the stakes associated with an inadequate rate of return are increased dramatically and the need for supportive regulation and an adequate ROE may never have been greater.

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 less than $1.0 billion, Black Hills Corp. is one

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[55] Brown, George, "Credit and Capital Issues Affecting the Electric Power Industry," *Federal Energy Regulatory Commission Technical Conference* (Jan. 13, 2009).

of the smallest publicly traded electric utilities followed by Value Line, which have an average capitalization of approximately $6.5 billion.[56]

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 their larger counterparts, due in part to their relative lack of diversification and lower financial resiliency.[57] 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.[58] 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,

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[56] www.valueline.com (Retrieved Aug. 25, 2009).

[57] 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).

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

and they require correspondingly higher rates of interest. From common shareholders' standpoint, a higher debt ratio means that there are proportionately more investors ahead of them, thereby increasing the uncertainty as to the amount of cash flow, if any, that will remain.

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

A. The Company's capital structure is presented in the testimony of Anthony S. Cleberg. 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 52 percent.

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 Proxy Group?

A. As shown on Exhibit WEA-9, for the sixteen firms in the Utility Proxy Group, common equity ratios at December 31, 2008 ranged between 26.5 percent and 67.6 percent and averaged 45.1 percent of long-term capital.

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

A. As shown on Exhibit WEA-9, Value Line expects an average common equity ratio for the Utility Proxy Group of 46.7 percent 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 future environmental mandates, and ongoing regulatory risks. Coupled with the ongoing turmoil in capital markets, 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 warned investors of the risks associated with debt leverage and fixed obligations and advised utilities not to squander the opportunity to strengthen the balance sheet as a buffer against future uncertainties.[59] Moody's noted that, "maintaining unfettered access to capital markets will be crucial," and cited the importance of forestalling future downgrades by bolstering utility balance sheets.[60] As Moody's concluded:

> Our concerns are clearly growing, but we believe utilities have adequate time to adjust and revise their corporate finance polices and strengthen

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[59] 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).
[60] Moody's Investors Service, "U.S. Investor-Owned Electric Utilities," *Industry Outlook* (Jan. 2009).

balance sheets, thereby improving their ability to manage volatility and address uncertainty.[61]

Moody's affirmed that because of its significant investment plans, the utility industry "will need to attract a significant amount of new equity capital in order to maintain existing ratings."[62] This is particularly the case for Black Hills Power, which faces the prospect of financing significant capital expenditures in a potentially turbulent market. Given Black Hills Power's low credit rating, small size, and capital expenditure, an equity ratio higher than the proxy group average is reasonable and necessary.

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. The need for access becomes even more important when the company has large capital requirements over a period of years, and financing must be continuously available, even during unfavorable capital market conditions.

Black Hills Power's proposed capital structure is consistent with industry benchmarks and reflects the Company's ongoing efforts to maintain its credit standing and

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[61] *Id.*

[62] Moody's Investors Service, "U.S. Investor-Owned Electric Utilities: Six-Month Industry Update," *Industry Outlook* (July 2008).

support access to capital on reasonable terms. The reasonableness of Black Hills Power's requested capital structure is reinforced by the ongoing uncertainties associated with the electric power industry, 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. Reflecting the fact that investors' required return on equity is unobservable and no single method should be viewed in isolation, I used both the DCF and CAPM methods and referenced expected earned rates of return for utilities. In order to reflect the risks and prospects associated with the Black Hills Power's jurisdictional utility operations, my analyses focused on a proxy group of sixteen 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 comparable risk companies in the non-utility sectors of the economy.

My application of the constant growth DCF model considered four alternative growth measures based on projected earnings growth, as well as the sustainable, "br+sv" for each firm in the respective proxy groups. In addition, I evaluated the reasonableness of the resulting DCF estimates and eliminated low- and high-end outliers that failed to meet threshold tests of economic logic. My CAPM analyses were based on forward-looking data that best reflects the underlying assumptions of this approach. The cost of common equity

estimates produced by the various capital market oriented analyses described in my testimony are summarized in Table WEA-4, below:

TABLE WEA-4
SUMMARY OF QUANTITATIVE RESULTS

DCF	Utility	Non-Utility
Value Line	11.2%	11.5%
IBES	11.5%	12.8%
First Call	11.5%	12.8%
Zacks	11.6%	13.4%
br+sv	10.7%	12.8%
CAPM	11.4%	11.6%
Expected Earnings		
Electric Utilities - 2009	10.5%	
Electric Utilities - 2010	11.0%	
Electric Utilities - 2012-14	11.5%	
Utility Proxy Group	10.6%	

Based on my assessment of the relative strengths and weaknesses inherent in each method, and conservatively giving less emphasis to the upper- and lower-most boundaries of the range of results, I concluded that the cost of common equity indicated by my analyses is in the 11.0 percent to 12.5 percent range.

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

A. Considering capital market expectations, the potential exposures faced by Black Hills Power, and the economic requirements necessary to maintain financial integrity and support additional capital investment even under adverse circumstances, it is my opinion that a range of 11.5 to 12.5 percent, represents a fair and reasonable ROE for Black Hills Power.

In addition, uncertainties associated with jurisdictional operations – including renewed focus on regulatory uncertainties and exposure to potential energy market volatility and energy procurement – are clearly evident to investors. Combined with Black Hills Power's relatively small size, these factors imply a level of investment risk and required return that exceeds that of the proxy groups used to estimate the cost of equity. Coupled with the need to provide an ROE that supports Black Hills Power's credit standing while funding necessary system investments, these considerations indicate that an ROE in the range of 11.5 to 12.5 percent is reasonable. The 11.5 percent ROE chosen by Mr. Cleberg is at the bottom of this range and represents a reasonable compromise between the need the provide Black Hills Power with an adequate return to compensate investors, maintain financial integrity, and attract capital. The cost of providing the Company an adequate return is small relative to the potential benefits that a strong utility can have in providing reliable service. 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, supportive regulation is crucial.

Q. Does this conclude your pre-filed direct testimony?

A. Yes.