BEFORE THE

SOUTH DAKOTA PUBLIC UTILITIES COMMISSION

REBUTTAL TESTIMONY

OF

WILLIAM E. AVERA

On Behalf of Black Hills Power, Inc.

Docket No. EL09-018

June 4, 2010

REBUTTAL TESTIMONY OF WILLIAM E. AVERA

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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. Did you previously submit direct testimony in this proceeding?

A. Yes, I did.

Q. What is the purpose of your rebuttal testimony in this case?

A. My purpose is to respond to the testimony of Mr. Donald L. Frankenfeld, concerning the fair rate of return on equity ("ROE") that Black Hills Power, Inc. ("Black Hills Power" or "the Company") should be authorized to earn on its investment in providing electric utility service. My testimony also responds to Mr. Frankenfeld's comments on the Company's requested capital structure.

Q. Please summarize the principal conclusions of your rebuttal testimony.

A. Mr. Frankenfeld's recommendations are flawed and should be rejected. He presents no supportable reasons to reject the Company's requested ROE of 11.5% and 52% equity capital structure. My rebuttal testimony also demonstrates that:

- *Contrary to Mr. Frankenfeld's assertion, my Utility Proxy Group is selected using objective risk measures used by investors and the sources of analysts' growth rates are widely referenced by investors and accepted in by regulatory agencies.*

- *Mr. Frankenfeld wrongly criticizes DCF results that I properly excluded as extreme outliers based on accepted tests of economic logic and my use of a sample of comparable risk utilities increase the statistical confidence of my cost of equity estimates.*

- *Mr.Frankenfeld presents no basis to ignore my Non-utility Proxy Group of the 61 least risky non-utility companies in the economy that have comparable risk based on objective measures relevant to investors.*

- *Mr. Frankenfeld's suggestion that my CAPM analysis is subjective fails to consider that I used accepted inputs in a model that is widely accepted.*

- *Mr. Frankenfeld's cost of equity estimate is unreliable and inconsistent with accepted methods and when the proper sustainable growth estimate is used results in a cost of equity of 10.53%.*

- *If Mr. Frankenfeld's test of reasonableness of his cost of equity estimate is corrected by the fact that the tax treatment of interest payments is accounted for in the utility revenue requirements, then his logic would imply a minimum cost of equity for Black Hills Power of 10.71%.*

- *Mr. Frankenfeld incorrectly ignores flotation cost which should add from 21 to 59 basis points to his cost of equity estimate to arrive at a fair ROE for Black Hills Power. Flotation costs would increase his cost of equity estimates to 10.74% to 11.12%. If the 59 basis points is added to his corrected test of reasonableness, the result would be 11.30%.*

- *With his concerns about the DCF and CAPM models and his use of Black Hills Power return on book equity, Mr. Frankenfeld should embrace my expected earnings approach, which supports an ROE for Black Hills Power between 10.5 and 11.5%*

- *Mr. Frankenfeld ignores Black Hills Power's relatively low bond rating and small size which require it to maintain relatively more equity in its capital structure to raise capital on a reasonable basis.*

II. UTILITY PROXY GROUP AND SOURCES NOT SUBJECTIVELY CHOSEN

Q. Mr. Frankenfeld claims that you subjectively chose the 16 utility proxy group (p. 5). Is he correct?

A. No. As I explained in my direct testimony, my Utility Proxy Group was selected to be comparable in risk to Black Hills Power based on objective measures of risk widely referenced by investors.[1] The measures used were from *The Value Line Investment Survey (*"Value Line") and Standard & Poor's Corporation ("S&P"). Value Line is one of the most widely distributed and referenced sources of investment advice in the U.S. It can be found in virtually every library, university, investment office, and utility commission library in the nation. It has been accepted

[1] Avera Direct, p. 23.

by courts and regulatory commissions as an authoritative source and has been used for non-litigation purposes and academic research.

Credit ratings are perhaps the most objective guide to utilities' overall investment risks and they are widely cited in the investment community and referenced by investors. While the credit rating agencies are primarily focused on the risk of default associated with the firm's debt securities, credit ratings and the risks of common stock are closely related. As noted in *Regulatory Finance: Utilities' Cost of Capital*:

> Concrete evidence supporting the relationship between bond ratings and the quality of a security is abundant. … The strong association between bond ratings and equity risk premiums is well documented in a study by Brigham and Shome (1982).[2]

Considering that credit ratings provide one of the most widely accepted benchmarks for investment risks, they are an appropriate and objective basis for identifying comparable risk utilities.

Under the regulatory standards established by *Bluefield*[3] and *Hope*,[4] the salient criterion in establishing a meaningful proxy group to estimate investors' required return is *relative risk*, not the characteristics of "utility service population, its core demographics, and its market capitalization" as mentioned by Mr. Frankenfeld (p. 5).

In fact, other regulators have rebuffed these notions, with the Federal Energy Regulatory Commission ("FERC") rejecting attempts to restrict a proxy group to companies based on attributes rather than objective risk measures. As FERC recently concluded:

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[2] Morin, Roger A., "Regulatory Finance: Utilities' Cost of Capital," *Public Utility Reports* at 81 (1994).
[3] *Bluefield Water Works & Improvement Co. v. Pub. Serv. Comm'n*, 262 U.S. 679 (1923).
[4] *Fed. Power Comm'n v. Hope Natural Gas Co.*, 320 U.S. 591 (1944).

> This is inconsistent with Commission precedent in which we have rejected proposals to restrict proxy groups based on narrow company attributes.[5]

Similarly, FERC has specifically rejected arguments a utility "should be excluded from the proxy group given the risk factors associated with its unregulated, non-utility business operations."[6]

Q. Is Mr. Frankenfeld correct that you subjectively chose the analysts you believe are credible to provide cost of equity estimates (p. 5)?

A. No. First, I develop cost of equity estimates by combining the objective dividend yield estimates from Value Line with various collections of earnings growth estimates of professional securities analysts who follow individual companies.[7] My testimony includes citations from the professional and academic literature supporting the use of analysts' estimates to estimate the cost of equity in the Discounted Cash Flow Model ("DCF Model") that I applied in my testimony. In applying the DCF model to estimate the cost of equity, the only relevant growth rate is the forward-looking expectations of investors that are captured in current stock prices. If financial analysts' forecasts do not add value to investors' decision making, it would be 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 implies that investors use them as a basis for their expectations.

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[5] *Pepco Holdings, Inc.*, 124 FERC ¶ 61,176 at P 118 (2008).

[6] *Bangor Hydro-Elec. Co.*, 117 FERC ¶ 61,129 at PP 19, 26 (2006).

[7] Avera Direct, pp. 29-34. IBES, First Call, and Zacks do not develop growth rate estimates themselves but collect them from recognized securities analysts of other firms that follow particular companies. Thus, they represent a consensus of the analysts who specialize in each company followed.

The continued success of investment services such as IBES, First Call, Zacks, 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. 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.[8]

III. MR. FRANKENFELD'S CRITICISMS OF MY DCF RESULTS ARE FLAWED

Q. Mr. Frankenfeld cites the cost of equity estimates for Great Plains Energy and CenterPoint Energy as examples of the "broad ranges produced by Dr. Avera's analysis [that] render it of little practical use (p. 5)." Did you use these extreme values in your analysis?

A. No. As I explain in my testimony, extreme outliers have been eliminated using economic logic.[9] As discussed in my direct testimony, it is inconceivable that

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[8] Morin, Roger A., "Regulatory Finance: Utilities' Cost of Capital," Public Utilities Reports, Inc. (1994) at 154-155.

[9] Avera Direct, pp. 36-38. On page 38, I specifically mention the elimination of the 24.6% estimate for CenterPoint Energy. In addition, the eliminated estimates for CenterPoint Energy and Great Plains Energy are indicated on Exhibit WEA-2 with shading. Thus, Mr. Frankenfeld should have known that the 4.7%, 7.2%, and 6.3% estimates for Great Plains Energy WERE NOT USED to estimate the cost of equity for Black Hills Power.

investors are not requiring a substantially higher rate of return for holding common stock than they could earn on less risky debt. Consistent with this principle, his DCF results must be adjusted to eliminate estimates that are determined to be outliers when compared against the yields available to investors from less risky utility bonds.

The Federal Energy Regulatory Commission ("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. FERC noted in *Kern River Gas Transmission Company* that:

> [T]he 7.31 and 7.32 percent costs of equity for El Paso and Williams found by the ALJ are only 110 and 122 basis points above that average yield for public utility debt. [10]

The Commission upheld the opinion of Staff and the Administrative Law Judge that cost of equity estimates for these two proxy group companies "were too low to be credible." [11] More recently, FERC affirmed that, "it is reasonable to exclude any company whose low-end ROE fails to exceed the average bond yield by about 100 basis points or more."[12]

Q. What else should be considered in evaluating DCF estimates at the low end of the range?

A. It is generally expected that long-term interest rates will rise as the recession ends and the economy returns to a more normal pattern of growth. The increase in debt yields anticipated by IHS Global Insight and the Energy Information Administration imply an average triple-B bond yield of 7.26 percent for 2010, or 7.39 percent over the 5-year period 2010-2014.

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[10] *Kern River Gas Transmission Company*, Opinion No. 486, 117 FERC ¶ 61,077 at P 140 & n. 227 (2006).
[11] *Id.*
[12] *Southern California Edison Co.*, 131 FERC ¶ 61,020 at P 55 (2010).

Q. Did you err by not weighting your DCF estimates by relative capitalization and "treat small utilities identically with large ones, and outliers identically with those arguably in the mainstream" as claimed by Mr. Frankenfeld (p. 5)?

A. No. As discussed above, I specifically eliminated estimates that were outliers based on objective criteria that have been applied by regulators. Since each of the remaining "mainstream" estimates was viewed to be credible, there was no logical reason to weight them by market capitalization. Indeed, as discussed in my testimony, Black Hills Power's corporate parent, Black Hills Corporation, is among the smaller utilities in terms of market capitalization.[13] Interestingly Great Plains Energy, held out by Mr. Frankenfeld as "perhaps most similar to Black Hills Power" (p. 5) is reported by Value Line as having a market capitalization of $2.6 billion compared to $1.3 billion for Black Hills Corporation (the Company's corporate parent). Since smaller capitalization demonstrably translates into higher relative risk, Black Hills is likely to have a higher cost of equity than that indicated for larger capitalization utilities.

Q. Is there any merit to Mr. Frankenfeld's argument that the commission should consider the lowest estimates produced by my DCF analyses (p. 6)?

A. No. As discussed above, the 4.7% and 7.38% for Great Plains Energy should be rejected as outliers because these low equity returns are illogical relative to the observable yields on utility bonds. Moreover, the estimates from the DCF model represent the required return of the marginal investor, and therefore the minimum return required to attract capital in current markets. It would be wrong to choose

one single estimate, such as the 9.78% for Westar Energy, because that would ignore the benefits of using a sample to produce an estimate of the cost of equity with more statistical confidence.

Q. Is Mr. Frankenfeld correct in his claim that you should have used dividend growth in your DCF model rather than earnings growth forecasts (p. 8)?

A. No. Mr. Frankenfeld actually articulates the fundamental financial nexus between earnings and future cash flows: "Earnings are important of course, as they are the chief determinant of cash flow, which ultimately determines the magnitude of dividends" (p. 8). This fundamental link between earnings and future dividend growth is confirmed by the fact that there are a number of investment services that collect and publish estimates of earnings growth and these expectations are the focus of much of the discussion in the financial media. As I explain in my direct testimony, the changing payout practices of the utility industry implies that dividend growth estimates are not indicative of long-term growth expectations.[14] In addition, I present published research from recognized authorities such as Value Line and *Financial Analysts Journal* regarding the relevance and reliability of analysts' earnings growth projections in the DCF model.[15]

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[13] Avera Direct, pp. 52-53.
[14] Avera Direct, p. 30.
[15] Id., pp. 31-34.

IV. UTILITIES ARE NOT AN INVESTMENT ISLAND

Q. What is the fallacy underlying Mr. Frankenfeld's rejection of any reference to non-utility companies in evaluating a fair ROE for Black Hills Power (pp. 6-7)?

A. Mr. Frankenfeld dismisses out of hand my analysis of the cost of equity for non-utility firms based on the claim that utilities are profoundly different and therefore less risky from other companies in the economy. The implication that an estimate of the required return for firms in the competitive sector of the economy is not useful in determining the appropriate return to be allowed for rate-setting purposes is wrong and inconsistent with reality, investor behavior, and the *Bluefield* and *Hope* decisions. In fact, returns in the competitive sector of the economy are the underpinning for utility ROEs because regulation purports to serve as a substitute for the actions of competitive markets. True enough, utilities are sheltered from competition, but they undertake other obligations and lose the ability to set their own prices and decide when to exit a market. The Supreme Court has recognized that it is the degree of risk, not the nature of the business, which is relevant in evaluating an allowed ROE for a utility.[16]

Q. Do utilities have to compete with non-regulated firms for capital?

A. Most certainly. The cost of capital is an opportunity cost based on the returns that investors could realize by putting their money in other alternatives, which includes other enterprises having comparable risks. Clearly the total capital invested in utility stocks is only the tip of the iceberg of total common stock investment and there are a plethora of other enterprises available to investors beyond those in the utility industry.

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[16] *Fed. Power Comm'n v. Hope Natural Gas Co.*, 320 U.S. 591 (1944).

Q. Did Mr. Frankenfeld present any objective evidence to support his contention that your Non-Utility Proxy Group is riskier than Black Hills Power or your Utility Proxy Group?

A. No. Mr. Frankenfeld presented no meaningful evidence to rebut the results for my Non-Utility Proxy Group; rather, he simply observed that my Non-Utility Proxy Group "ranges across the board, with size, growth, and risk characteristics that are not applicable to utilities (p. 6)." Mr. Frankenfeld ignores the reality that my Non-utility Proxy Group was chosen to be comparable in risk to Black Hills Power using the same objective measures of risk referenced by investors that were used to select the Utility Proxy Group.

My Non-Utility Proxy Group is comprised of 61 of the best-known and most stable corporations in America and has risk measures that are comparable to, or less than the proxy groups of gas and combination utilities referenced in my analyses.[17] While these companies do not have the regulatory protections that utilities have, neither do they bear the burdens of losing control over their prices, undertaking the obligation to serve, and having to invest in infrastructure even in unfavorable market conditions. Black Hills Power can't relocate its service territory to an area with greater customer density or higher prospects for economic growth, postpone capital spending necessary to maintain reliability and accommodate growth, or abandon customers when turmoil roils energy or capital markets.

Investors are quite aware that utilities are not guaranteed recovery of prudent costs and that there are many instances in which utilities are unable to increase rates to fully recoup reasonable and necessary costs, resulting in an inability to earn the

[17] Avera Direct at Table WEA-2.

allowed rate of return on invested capital. The simple observation that a firm operates in non-utility businesses says nothing at all about the overall investment risks perceived by investors, which is the very basis for a fair rate of return.

Q. Would it be consistent with the *Bluefield* and *Hope* cases to disregard required returns for non-utility companies?

A. No. The *Bluefield* case refers to "business undertakings attended with comparable risks and uncertainties." It does not restrict consideration to other utilities. Indeed, if the requirement is business in the same part of the country and the utility has the exclusive franchise, then the Court could only be referring to non-utility businesses and any nearby utilities. Similarly, the *Hope* case states:

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

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

Indeed, in teaching regulatory policy I usually observe that in the early applications of the comparable earnings approach, utilities were explicitly eliminated due to a concern about circularity. In other words, soon after the *Hope* decision regulatory commissions did not want to get involved in circular logic by looking to the returns of utilities that were established by the same or similar regulatory commissions in the same geographic region. To avoid circularity, regulators looked only to the returns of non-utility companies. Incidentally, the requirement in the *Bluefield* case of restricting the comparable group to the geographic region is often overlooked in the academic literature. It is interesting to note that virtually all of the firms in my Non-Utility Proxy Group have a significant presence in South Dakota.

Q. Does consideration of the results for the Non-Utility Proxy Group result in a more reliable estimation of the cost of equity using the DCF model?

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

> Natural Gas Utility stocks have fallen near the bottom of our Industry spectrum for Timeliness. Accordingly, short-term investors would probably do best to find a group with better prospects over the coming six to 12 months. Longer-term, we expect these businesses to rebound. An improved economic environment, coupled with stronger pricing, should boost results across this sector over the coming years.[18]

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

V. MR. FRANKENFELDS CRITICISMS OF THE CAPM RESULTS SHOULD BE DISREGARDED

Q. What criticism did Mr. Frankenfeld make of your Capital Asset Pricing Model ("CAPM") analyses in this case?

A. Aside from claiming that CAPM is "really DCF by another name" (p. 7), Mr. Frankenfeld claims that "beta" I use is subjective and historical (p. 7). As I explain in my direct, I do not subjectively develop my own betas, rather I use those

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

published in Value Line.[19] As I document in my direct testimony, Value Line betas are likely to reflect investors' forward-looking expectations. I cite the authoritative source of Professor Roger Morin to justify that the betas in Value Line are likely to influence the forward-looking expectation of institutional and individual investors.[20]

Q. Mr. Frankenfeld claims your CAPM and DCF analyses in this case are subjective because they employ assumptions and judgment (p. 8). Is this a sound criticism?

A. No. As explained in my direct testimony, the methods that I have used are accepted by the courts and regulatory agencies in litigation and used widely for decision-making in non-litigation circumstances. Mr. Frankenfeld himself acknowledges that the CAPM and DCF models are "frequently employed by business appraisers" (p. 7). The application of each model is built upon academic research and testing published in peer-reviewed literature. The assumptions and judgments I have made in my analyses are clearly presented and justified in my testimony with all calculations transparent in my exhibits. In addition, following best practices, I have used a variety of methods and proxy groups to corroborate and test the reasonableness of my recommendations.[21]

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[19] Avera Direct, p. 41.
[20] Ibid., citing Morin, Roger A. "Regulatory Finance: Utilities' Cost of Capital," *Public Utilities Reports* at 65 (1994).
[21] Avera Direct, p. 21.

VI. MR. FRANKENFELD'S COST OF EQUITY ESTIMATE IS UNRELIABLE AND INCONSISTENT WITH ACCEPTED METHODS

Q. **Mr. Frankenfeld calculates a cost of equity for Black Hills Power of 8.35% using the DCF model (pp. 9-10). Is this estimate reliable?**

A. No. Mr. Frankenfeld applies the DCF model to a single company, Black Hills Power's corporate parent. Using a single company reduces the statistical confidence of the result compared to using a comparable risk sample as I did in my testimony. In my experience, almost all cost of equity witnesses (including those presenting testimony for utilities, commission staffs, consumer counsels, and other interveners) use proxy groups. Similarly, I know of no regulatory agency in the U.S. or Canada that does not reference a proxy group when applying the DCF model.

Q. **Does Mr. Frankenfeld's "calculated theoretical growth rate of 2.42% (p. 10) for Black Hills Power Corporation fit the assumptions of the DCF model?**

A. No. First, the calculation of internal growth is based on historical results. Investors are forward-looking in their return expectations. He implicitly recognizes the forward-looking nature of investors' expectation when he notes they would ignore the losses in 2008 and the "below-par performance in 2009" (p. 10). However, by using the average results from 2004-2007, Mr. Frankenfeld is ignoring what investors would have been expecting when they paid $26.63 for Black Hills Corporation stock. An investor who purchased the stock at the end of 2009 would not get 2004-2007 growth, but only future cash flows.

Second, Mr. Frankenfeld ignored the impact of additional issuances of common stock in their analyses of the sustainable growth rate. Under DCF theory, the "sv" factor is a component designed to capture the impact on growth of issuing new common stock at a price above, or below, book value. As noted by Myron J.

Gordon, the founder of the DCF model used in the regulatory arena, in his classic 1974 study:

> When a new issue is sold at a price per share P = E, the equity of the new shareholders in the firm is equal to the funds they contribute, and the equity of the existing shareholders is not changed. However, if P > E, part of the funds raised accrues to the existing shareholders. Specifically…[v] is the fraction of the funds raised by the sale of stock that increases the book value of the existing shareholders' common equity. Also, "v" is the fraction of earnings and dividends generated by the new funds that accrues to the existing shareholders.[22]

In other words, the "sv" factor recognizes that when new stock is sold at a price above (below) book value, existing shareholders experience equity accretion (dilution). In the case of equity accretion, the increment of proceeds above book value (P > E in Professor Gordon's example) leads to higher growth because it increases the book value of the existing shareholders' equity. In short, the "sv" component is entirely consistent with DCF theory, and the fact that Mr. Frankenfeld failed to consider the incremental impact on growth results in another downward bias to his calculated growth rate.

My direct testimony reports an internal growth calculation for Black Hills Corporation that uses only forward-looking return and retention expectations and properly considers the effect of stock issues. As reflected on Exhibit WEA-3, page 3 of 3, the "br+sv" growth estimate for Black Hills Corporation is 4.6%. When that growth rate is added to Mr. Frankenfeld's 5.93% dividend yield, the result is a cost of equity of 10.53%.

Q. **Do you have any other observations about Mr. Frankenfeld's application of the DCF model?**

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[22] Gordon, Myron J., "The Cost of Capital to a Public Utility," MSU Public Utilities Studies (1974), at 31–32.

A. Mr. Frankenfeld is harsh in his criticism of me (p. 8) for "Using earnings rather than dividends as a measure of value negatively affects the credibility and reliability of Mr. Avera's conclusions." Yet by using the internal growth rate approach in his DCF calculation, Mr. Frankenfeld is using earnings rather than dividends in his analysis in the same way that I did in my analysis.

Q. Does Mr. Frankenfeld's test of reasonableness of his 8.53% recommended return (pp. 10-11) make economic sense in the regulatory arena?

A. No. Mr. Frankenfeld calculates that his ROE represents a sufficient premium over the AFTER-TAX cost of the Company's recent 6.18% debt issue of less than 4% (p. 11). First, he presents no objective basis for a 4.53% spread (8.53% - 4% = 4.53%) as being reasonable. Second, he references a single debt issue, not the Company's future debt cost which is comparable to the forward-looking ROE (recall as I documented earlier, investors expect corporate debt yields to rise as the economy recovers). Third, and perhaps most significant, the tax treatment of interest payments is accounted for in the utility's revenue requirement, not the return on equity. If Mr. Frankenfeld's required 4.53% spread is applied to the 6.18% debt cost, the resulting indicated required ROE is 10.71% (6.18% + 4.53% = 10.71%).

VII. MR. FRANKENFELD SHOULD CONSIDER FLOTATION COSTS

Q. Does Mr. Frankenfeld respond to your reasoning that there is a need to consider the impact of flotation costs in establishing a utility's ROE?

A. No. The need for a flotation cost adjustment to compensate for past equity issues has been recognized in the financial literature. In a *Public Utilities Fortnightly* article, for example, Brigham, Aberwald, and Gapenski demonstrated that even if no further stock issues are contemplated, a flotation cost adjustment in all future years is required to keep shareholders whole, and that the flotation cost adjustment must

consider total equity, including retained earnings.[23] Similarly, *Regulatory Finance: Utilities' Cost of Capital* contains the following discussion:

> Another controversy is whether the underpricing allowance should still be applied when the utility is not contemplating an imminent common stock issue. Some argue that flotation costs are real and should be recognized in calculating the fair rate of return on equity, but only at the time when the expenses are incurred. In other words, the flotation cost allowance should not continue indefinitely, but should be made in the year in which the sale of securities occurs, with no need for continuing compensation in future years. This argument implies that the company has already been compensated for these costs and/or the initial contributed capital was obtained freely, devoid of any flotation costs, which is an unlikely assumption, and certainly not applicable to most utilities. … The flotation cost adjustment cannot be strictly forward-looking unless all past flotation costs associated with past issues have been recovered.[24]

Q. Can you provide a simple numerical example illustrating why a flotation cost adjustment is necessary to account for past flotation costs?

A. Yes. The following example demonstrates that investors will not have the opportunity to earn their required rate of return (*i.e.*, dividend yield plus expected growth) unless an allowance for past flotation costs is included in the allowed rate of return on equity. Assume a utility sells $10 worth of common stock at the beginning of year 1. If the utility incurs flotation costs of $0.48 (5 percent of the net proceeds), then only $9.52 is available to invest in rate base. Assume that common shareholders' required rate of return is 11.5 percent, the expected dividend in year 1 is $0.50 (*i.e.*, a dividend yield of 5 percent), and that growth is expected to be 6.5 percent annually. As developed below, if the allowed rate of return on common equity is only equal to the utility's 11.5 percent "bare bones" cost of equity, common

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[23] Brigham, E.F., Aberwald, D.A., and Gapenski, L.C., "Common Equity Flotation Costs and Rate Making," *Public Utilities Fortnightly,* May, 2, 1985.

[24] Morin, Roger A., "Regulatory Finance: Utilities' Cost of Capital," *Public Utilities Reports* at 175 (1994).

stockholders will not earn their required rate of return on their $10 investment, since growth will really only be 6.25 percent, instead of 6.5 percent:

Year	Common Stock	Retained Earnings	Total Equity	Market Price	M/B Ratio	Allowed ROE	Earnings Per Share	Dividends Per Share	Payout Ratio
1	$ 9.52	$ -	$ 9.52	$ 10.00	1.050	11.50%	$ 1.09	$ 0.50	45.7%
2	$ 9.52	$ 0.59	$ 10.11	$ 10.62	1.050	11.50%	$ 1.16	$ 0.53	45.7%
3	$ 9.52	$ 0.63	$ 10.75	$ 11.29	1.050	11.50%	$ 1.24	$ 0.56	45.7%
Growth			**6.25%**	**6.25%**			**6.25%**	**6.25%**	

The reason that investors never really earn 11.5 percent on their investment in the above example is that the $0.48 in flotation costs initially incurred to raise the common stock is not treated like debt issuance costs (*i.e.*, amortized into interest expense and therefore increasing the embedded cost of debt), nor is it included as an asset in rate base.

Q. Can you illustrate how the flotation cost adjustment allows investors to be fully compensated for the impact of past issuance costs?

A. Yes. As discussed in my direct testimony, one method for calculating the flotation cost adjustment is to multiply the dividend yield by a flotation cost percentage. Thus, with a 5 percent dividend yield and a 5 percent flotation cost percentage, the flotation cost adjustment in the above example would be approximately 25 basis points. As shown below, by allowing a rate of return on common equity of 11.75 percent (an 11.5 percent cost of equity plus a 25 basis point flotation cost adjustment), investors earn their 11.5 percent required rate of return, since actual growth is now equal to 6.5 percent:

Year	Common Stock	Retained Earnings	Total Equity	Market Price	M/B Ratio	Allowed ROE	Earnings Per Share	Dividends Per Share	Payout Ratio
1	$ 9.52	$ -	$ 9.52	$ 10.00	1.050	11.75%	$ 1.12	$ 0.50	44.7%
2	$ 9.52	$ 0.62	$ 10.14	$ 10.65	1.050	11.75%	$ 1.19	$ 0.53	44.7%
3	$ 9.52	$ 0.66	$ 10.80	$ 11.34	1.050	11.75%	$ 1.27	$ 0.57	44.7%
Growth			**6.50%**	**6.50%**			**6.50%**	**6.50%**	

The only way for investors to be fully compensated for issuance costs is to include an ongoing adjustment to account for past flotation costs when setting the return on common equity. This is the case regardless of whether or not the utility is expected to issue additional shares of common stock in the future.

Q. What would be an appropriate flotation cost adjustment to Mr. Frankenfeld's DCF cost of equity estimate?

A. In my direct testimony I document a flotation cost ranging from 3.6 percent to 10.0 percent.[25] If that percentage is multiplied by Mr. Frankenfeld's dividend yield for Black Hills Corporation of 5.93 percent, then the resulting flotation cost adjustment ranges from 21 to 59 basis points. If the flotation cost is applied to Mr. Frankenfeld's original DCF result of 8.35% (which wrongly calculated the growth component), the resulting fair ROE would be between 8.56% to 8.94%. If the flotation adjustment is properly applied to Mr. Frankenfeld's corrected DCF of 10.53% (using the proper internal growth rate), the resulting fair ROE ranges from 10.74% to 11.12%. If the 59 basis points is applied to the 10.71% cost of equity implied by Mr. Frankenfeld's test of reasonableness (recognizing that the tax deductibility of interest is accounted for elsewhere in the utility's revenue requirements), the result is 11.30%, within 20 basis points of the Company's requested 11.5% ROE.

[25] Avera Direct, p. 48.

VIII. MR. FRANKENFELD PROVIDES NO BASIS TO IGNORE RETURNS ON BOOK VALUE

Q. Does Mr. Frankenfeld provide any reason for rejecting your expected earnings approach as a valid ROE benchmark?

A. No. My expected earnings approach is predicated on the comparable earnings test, which developed as a direct result of the Supreme Court decisions in *Bluefield* and *Hope*. From my understanding as a regulatory economist, not as a legal interpretation, these cases required that a utility be allowed an opportunity to earn the same return as companies of comparable risk. That is, the cases recognized that a utility must compete with other companies (including non-utilities) for capital. My testimony documents that investors should have an opportunity to earn between 10.5% to 11.5% on book value for Black Hills Power's returns to be competitive with other regulated utilities.[26]

Q. Does the logic in Mr. Frankenfeld's testimony actually support the expected earnings approach?

A. Yes. First, Mr. Frankenfeld is critical of the assumptions and judgments that are needed to employ the DCF and CAPM models (p. 8). The expected earnings approach goes directly to the bottom line of actual earnings without the intervention of financial models. Second, Mr. Frankenfeld references return on equity in developing his sustainable growth cost of equity estimate (p. 10).

Q. What economic premise underlies the expected earnings approach?

A. The simple, but powerful concept underlying the expected earnings approach is that investors compare each investment alternative with the next best opportunity. If the utility is unable to offer a return similar to that available from other opportunities of

[26] Avera Direct, p. 46.

comparable risk, investors will become unwilling to supply the capital on reasonable terms. For existing investors, denying the utility an opportunity to earn what is available from other similar risk alternatives prevents them from earning their opportunity cost of capital. In this situation the government is effectively taking the value of investors' capital without adequate compensation.

Q. How is the comparison of opportunity costs typically implemented?

A. The traditional comparable earnings test identifies a group of companies that are believed to be comparable in risk to the utility. The actual earnings of those companies on the book value of their investment are then compared to the allowed return of the utility. While the traditional comparable earnings test is implemented using historical data taken from the accounting records, it is also common to use projections of returns on book investment, such as those published by recognized investment advisory publications (*e.g.*, Value Line). Because these returns on book value equity are analogous to the allowed return on a utility's rate base, this measure of opportunity costs results in a direct, "apples to apples" comparison.

Q. Do regulatory commissions use returns on book value as a benchmark for ROE?

A. Yes. This method predominated before the DCF model became fashionable with academic experts, and I continue to encounter it around the country. Indeed, the Virginia State Corporation Commission ("VSCC") is required by statute (Virginia Code 56-585) to consider the earned returns on book value of electric utilities in its region. In an order issued on July 14, 2009 the VSCC confirmed the relevance of earned book returns in Docket PUE-2009-00019 for Virginia Electric and Power Company. Another example is Ms. Terri Carlock, the long-time financial analyst for the Idaho Public Utilities Commission. She has consistently presented evidence on

book earnings for decades, and Idaho regulators continue to confirm the relevance of return on book equity evidence. [27]

Perhaps the most ardent proponent of earned returns as a benchmark for fair ROE is David C. Parcell, who frequently appears as a witness for regulatory agencies and other interveners. Mr. Parcell literally "wrote the book" for the Society of Utility and Regulatory Financial Analysts.[28] Mr. Parcell called the comparable earnings approach the "granddaddy" of cost of equity methods.[29] He also points out that the amount of subjective judgment required to implement this method is "minimal", particularly when compared to the DCF and CAPM methods.[30] Mr. Parcell also notes that this method is "easily understood" and firmly anchored in the regulatory tradition of the *Bluefield* and *Hope* cases.[31]

IX. THE COMPANY'S CAPITAL STRUCTURE SHOULD BE APPROVED

Q. What position does Mr. Frankenfeld take on the Company's capital structure?

A. Mr. Frankenfeld observes that "the Company could comfortably increase its debt to, say, 60% of electric utility capitalization, which would place it on the aggressive end of the spectrum among regulated utilities (p. 11)." Mr. Frankenfeld presents no evidence to support this speculation. In my direct testimony, I documented that Black Hills must maintain a relatively high equity ratio to maintain access to capital on reasonable terms. [32] As already discussed in this rebuttal, Black Hills Power and

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[27] The comparable earnings approach was identified as a favored method in determining the allowed ROE for 24 of the agencies surveyed in NARUC's compilation of regulatory policy. "Utility Regulatory Policy in the U.S. and Canada, 1995-1996," National Association of Regulatory Utility Commissioners (December 1996). In my experience, while a few Commissions have explicitly rejected comparable earnings, most regard it as a useful tool.

[28] Parcell, David C., *The Cost of Capital – A Practitioner's Guide* (1997).

[29] *Id.* at 7-1.

[30] *Id.* at 7-3.

[31] *Id.*

[32] Avera Direct, pp. 50-55.

its corporate parent, Black Hills Corporation, are small relative to other utilities. As documented in my direct, more equity in the capital structure is needed to offset this size disadvantage in raising capital.[33]

Q. Does Mr. Frankenfeld's suggestion that the company could earn a higher return on equity by using more debt in its capital structure represent a prudent financial policy for Black Hills Power?

A. No. Increasing debt leverage would undermine Black Hills credit rating. The only way for Black Hills Power to have an opportunity to earn a return comparable to other enterprises with whom it competes for capital, is for this Commission to authorize a compensatory return

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

A. Yes.

[33] Id., pp. 52-53.