Direct Testimony and Schedules
Ann E. Bulkley

Before the South Dakota Public Utilities Commission
State of South Dakota

In the Matter of the Application of Northern States Power Company
for Authority to Increase Rates for Electric Service in South Dakota

Docket No. EL14-___
Exhibit___ (AEB-1)

Rate of Return and Return on Equity

June 23, 2014

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I. INTRODUCTION AND QUALIFICATIONS

Q. PLEASE STATE YOUR NAME, EMPLOYER, AND BUSINESS ADDRESS.

A. My name is Ann E. Bulkley. I am employed by Concentric Energy Advisors (Concentric) as a Vice President. My business address is 293 Boston Post Road West, Suite 500, Marlborough, Massachusetts 01752.

Q. ON WHOSE BEHALF ARE YOU SUBMITTING THIS TESTIMONY?

A. I am submitting this testimony on behalf of Northern States Power Company (NSPM or the Company). NSPM is a wholly-owned subsidiary of Xcel Energy Inc. (XEI).

Q. PLEASE DESCRIBE YOUR QUALIFICATIONS AND EXPERIENCE.

A. I hold a Bachelor's degree in Economics and Finance from Simmons College and a Master's degree in Economics from Boston University, with approximately 18 years of experience consulting to the energy industry. I have advised numerous energy and utility clients on a wide range of financial and economic issues with primary concentrations in valuation and utility rate matters. Many of these assignments have included the determination of the cost of capital for valuation and ratemaking purposes. I have included my resume as Exhibit __(AEB-1), Schedule 1, and a summary of testimony that I have filed in other proceedings as Exhibit __(AEB-1), Schedule 2.

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

A. Concentric provides financial and economic advisory services to many and various energy and utility clients across North America. Our regulatory, economic, and market analysis services include utility ratemaking and

regulatory advisory services; energy market assessments; market entry and exit analysis; corporate and business unit strategy development; demand forecasting; resource planning; and energy contract negotiations. Our financial advisory activities include both buy and sell-side merger, acquisition and divestiture assignments; due diligence and valuation assignments; project and corporate finance services; and transaction support services. In addition, we provide litigation support services on a wide range of financial and economic issues on behalf of clients throughout North America.

II. PURPOSE AND OVERVIEW OF TESTIMONY

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. The purpose of my Direct Testimony is to present evidence and provide a recommendation regarding the Company's Return on Equity (ROE) and to provide an assessment of the Company's proposed capital structure and cost of long-term debt to be used for ratemaking purposes. I will also present the recommended overall Rate of Return (ROR) based on the ROE that I recommend and the capital structure and cost of debt determined by the Company. My analyses and recommendations are supported by the data presented in Exhibit ___(AEB-1), Schedule 3 through Schedule 8, which were prepared by me or under my supervision.

Q. WHAT ARE YOUR CONCLUSIONS REGARDING THE APPROPRIATE COST OF EQUITY FOR THE COMPANY?

A. I base my recommendation on the results of several quantitative methodologies and qualitative analyses discussed throughout my Direct Testimony. Considering the results of those analyses, I believe that a reasonable ROE for NSPM is within the range of 10.00 percent and 10.50

percent. Taking into consideration the specific business and financial risks of NSPM in South Dakota relative to the proxy group companies, my ROE recommendation for the Company is 10.25 percent. I also conclude that the Company's projected test year capital structure (shown in Table 1 below), which includes 53.86 percent common equity and 46.14 percent long-term debt, and an overall ROR of 7.84 percent, are reasonable and should be approved by the South Dakota Public Utilities Commission (the Commission).

Table 1: Rate of Return

	Percentage of Total Capitalization	Cost of Capital	Weighted Cost of Capital
Long Term Debt	46.14%	5.04%	2.32%
Common Equity	53.86%	10.25%	5.52%
Total Capitalization	100.00%		7.84%

Q. PLEASE PROVIDE A BRIEF OVERVIEW OF THE ANALYSES THAT LED TO YOUR ROE RECOMMENDATION.

A. As discussed in more detail in Section VIII, in developing my ROE recommendation, I applied the Constant Growth and Multi-Stage forms of the Discounted Cash Flow (DCF) model, the Capital Asset Pricing Model (CAPM), and the Bond Yield Plus Risk Premium approach.

My recommendation also takes into consideration flotation costs. Specifically, I am proposing a flotation cost adjustment to compensate investors for the costs associated with equity issuance. Finally, I considered the Company's proposed capital structure as compared to the capital structures of the proxy group companies.

III. SUMMARY OF ANALYSIS AND CONCLUSIONS

Q. PLEASE SUMMARIZE THE KEY FACTORS CONSIDERED IN YOUR ANALYSES AND UPON WHICH YOU BASE YOUR RECOMMENDED ROE.

A. My analyses and recommendations considered the following:

- The *Bluefield* and *Hope* decisions[1] that established the standards for determining a fair and reasonable allowed ROE and have been recognized by the South Dakota Supreme Court and the Commission. Those standards include consistency of the allowed return with other businesses having similar risk, adequacy of the return to provide access to capital and support credit quality, and that the end result is just and reasonable.
- The range of results produced using several ROE estimation models. As I will explain, those ROE estimation models support a range of 10.00 percent to 10.50 percent.
- The effect of current capital market conditions on investors' return requirements. As discussed in more detail later in my testimony, current capital market conditions indicate that the interest rate environment is a significant risk factor for electric utility companies over the next few years.
- The Company's extensive investment plan and need to access capital markets, and the effect of the authorized ROE on investors. NSPM's extensive investment plan involves its generation, transmission, and local distribution facilities. A reasonable ROE is particularly important

[1] *Bluefield Waterworks & Improvement Co., v. Public Service Commission of West Virginia*, 262 U.S. 679 (1923); *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591 (1944).

in order to maintain access to capital markets to fund the investment requirements at reasonable cost.

Q. HAS THE COMPANY BEEN ABLE TO EARN A JUST AND REASONABLE RETURN IN SOUTH DAKOTA IN RECENT YEARS?

A. No. As shown in Table 2 below, NSPM has failed to earn a reasonable return in South Dakota every year since 2009.

Table 2: NSPM's Actual and Weather Normalized Earned ROEs in South Dakota 2009-2013[2]

Year	Actual Earned ROE	Weather Normalized Earned ROE
2013	7.73%	7.28%
2012	5.38%	4.86%
2011	4.16%	3.90%
2010	2.95%	2.64%
2009	3.38%	4.23%

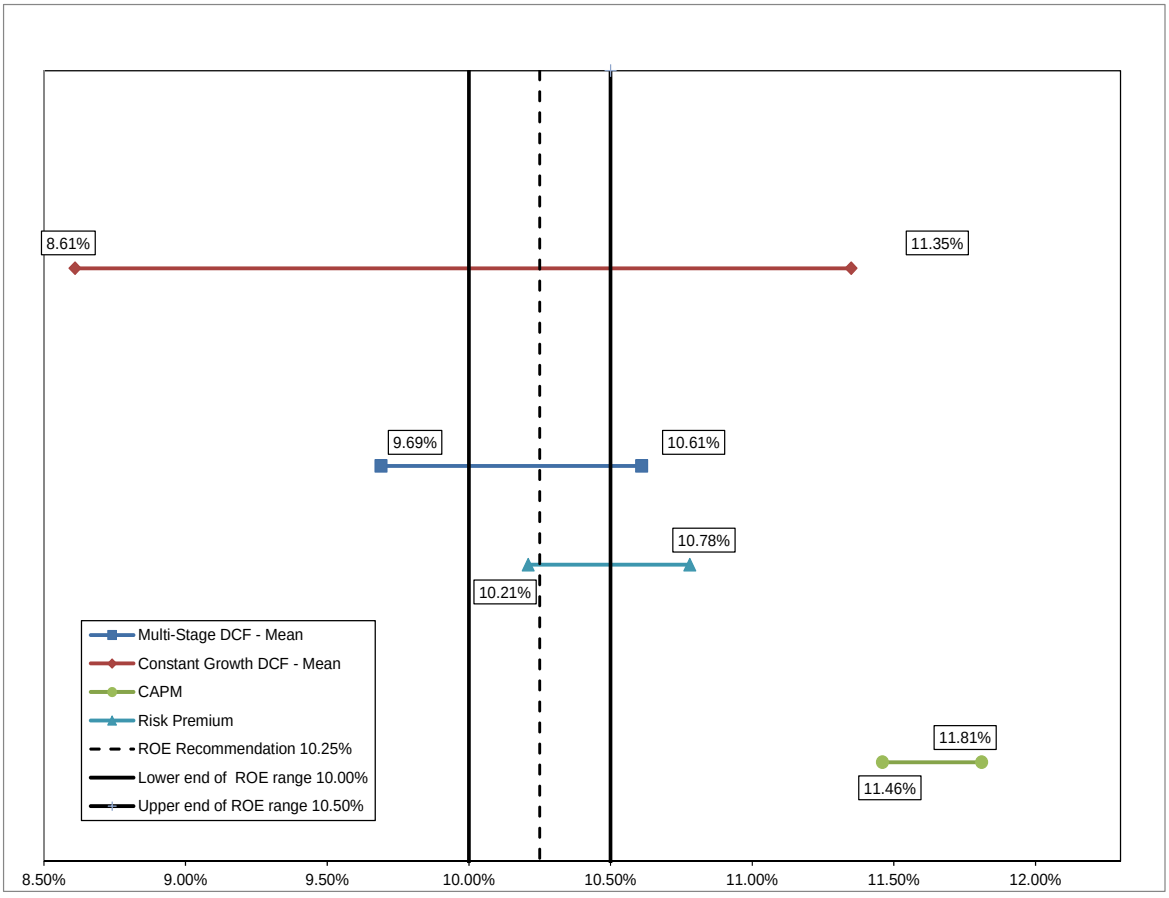
Q. PLEASE SUMMARIZE THE COST OF EQUITY ESTIMATION MODELS THAT YOU CONSIDERED TO ESTABLISH THE RANGE OF ROES FOR NSPM AND YOUR RECOMMENDED ROE.

A. I considered several Cost of Equity estimation models to determine both the appropriate range for the Company's ROE and my specific ROE recommendation. Specifically, I considered the results of two forms of the DCF model: the Constant Growth form and the Multi-Stage form. In addition, I considered two risk premium approaches: the CAPM and a Bond

[2] Source: Actual Earned ROE and Weather Normalized Earned ROE provided in Annual Jurisdictional Reports filed by NSPM with South Dakota PUC.

Yield Plus Risk Premium methodology. While it is common to consider several models in determining the Cost of Equity, using several models is especially important when the range of results is wide.

Chart 1: Summary of Cost of Equity Analytical Results



As shown on Chart 1, the range of the Constant Growth DCF results is very wide, particularly in relation to the results of the other Cost of Equity models. In developing my ROE recommendation, I considered the results of various ROE estimation models, as well as the level of business risk faced by the Company relative to the proxy group, and the effect of current and prospective capital market conditions on the Cost of Equity. I have placed

limited weight on the results of the Constant Growth DCF analysis due to concerns that the Federal Reserve's recent Quantitative Easing has contributed to high stock valuations and low dividend yields for electric utility companies. As discussed in more detail in Section VIII of my Direct Testimony, the Constant Growth DCF model produces individual company results as low as 6.92 percent, which is only 188 basis points above the Company's cost of long-term debt. Furthermore, the mean low Constant Growth DCF results are below an acceptable range of returns for an electric utility and below any authorized ROE for an electric utility company for at least the last 25 years. Therefore, I believe the returns at the low end of the DCF range do not provide a sufficient risk premium to compensate equity investors for the residual risks of ownership, including the risk that they have the lowest claim on the assets and income of the Company.

My ROE recommendation is based primarily on the results of the Multi-Stage DCF model and a forward-looking CAPM analysis. The Multi-Stage DCF model addresses some of my concerns with the Constant Growth DCF model by more appropriately recognizing short and long-term investor expectations for growth rates. The forward-looking CAPM analysis reflects the market's expectation that interest rates will continue to increase substantially over the next few years as the Federal Reserve withdraws the Quantitative Easing program that has been in place since the severe 2007-2009 recession. Given those considerations, I believe that the range of reasonable investor expectations and the Cost of Equity is from 10.00 percent to 10.50 percent, and the appropriate ROE for the Company is 10.25 percent.

Q. HOW IS THE REMAINDER OF YOUR DIRECT TESTIMONY ORGANIZED?

A. The remainder of my Direct Testimony is organized as follows: Section IV reviews the regulatory guidelines and financial considerations pertinent to the development of the cost of capital; Section V describes the Company's extensive capital investment program and the implications of that program for the appropriate ROE in this proceeding; Section VI discusses the current capital market conditions and the effect of those conditions on the Company's Cost of Equity; Section VII explains my selection of a proxy group of comparable companies; Section VIII describes my analyses and the analytical basis for the recommendation of the appropriate ROE for NSPM; Section IX describes the Company's proposed capital structure as compared with the proxy group; and Section X presents my conclusions and recommendations.

IV. REGULATORY GUIDELINES AND FINANCIAL CONSIDERATIONS

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

A. The United States Supreme Court's precedent-setting *Bluefield* and *Hope* cases established the standards for determining the fairness or reasonableness of a utility's allowed ROE. Among the standards established by the Court in those cases are: (1) consistency with other businesses having similar or comparable risks; (2) adequacy of the return to support credit quality and

access to capital; and (3) that the end result, as opposed to the methodology employed, is the controlling factor in arriving at just and reasonable rates.[3]

Based on those standards, the Commission's order in this case should provide the Company with the opportunity to earn an ROE that is:

- Adequate to attract capital on reasonable terms, thereby enabling the Company to continue making investments needed to provide safe and reliable service;
- Sufficient to ensure the financial soundness of the Company's operations; and
- Commensurate with returns on investments in other businesses having comparable risks.

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

Q. DOES SOUTH DAKOTA APPLY THE FAIR AND REASONABLE RETURN STANDARD?

A. Yes, it does. Chapter 49-34A-8 of the South Dakota Codified Law (SDCL) discusses the Commission's role in setting rates. Specifically, the SDCL states that the Commission:

> shall give due consideration to the public need for adequate, efficient, economical, and reasonable service and to the need of the public utility for revenues sufficient to enable it to meet its total current cost of furnishing such

[3] *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591 (1944); *Bluefield Waterworks & Improvement Co., v. Public Service Commission of West Virginia*, 262 U.S. 679 (1923).

> service, … and to earn a fair and reasonable return upon the value of its property. (Emphasis added.)

The South Dakota Supreme Court has explained the fair and reasonable return standard as follows:

> From the investor or company point of view it is important that there be enough revenue not only for operating expenses but also for the capital costs of the business. These include service on the debt and dividends on the stock. By that standard the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks. That return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital.[4] (Emphasis added.)

Q. WHY IS IT IMPORTANT FOR A UTILITY TO BE ALLOWED THE OPPORTUNITY TO EARN AN ROE THAT ASSURES INVESTOR CONFIDENCE AND THE ABILITY TO ATTRACT CAPITAL?

A. An ROE that is adequate to attract capital at reasonable terms enables the Company to continue to provide safe, reliable electric utility service while maintaining its financial integrity. To the extent the Company is provided the opportunity to earn its market-based cost of capital, neither customers nor shareholders are disadvantaged. While the "capital attraction" and "financial integrity" standards are important principles in normal economic conditions, the practical implications of those standards are even more pronounced when considered in the context of the recent financial environment which I discuss in Section VI. The ability to attract capital on reasonable terms is especially

important to the Company while it is engaged in its extensive capital investment program, as I discuss in Section V.

Q. DOES A SAFE ENVIRONMENT EQUATE TO A LOW RISK ENVIRONMENT FOR A UTILITY INVESTOR?

A. Not necessarily. A primary source of risk for utility investors is "regulatory risk", which is determined by whether the jurisdictions in which a utility operates are supportive of the utility's operations, including whether the regulatory entities award reasonable returns compared to ROEs available in other jurisdictions. An unreasonably low ROE award would signal a lack of regulatory support, causing investors to view that jurisdiction as being higher risk for investments needed to support capital expenditures. Investors have many alternatives, and the ability to earn a reasonable return on investment is their primary criteria for selecting among investment alternatives of comparable risk. Thus, a state may generally offer a business-friendly economic environment, while still pursuing regulatory policies that pose higher risks to a regulated utility investment.

Q. WHAT ARE YOUR CONCLUSIONS REGARDING REGULATORY FACTORS AND CAPITAL MARKET EXPECTATIONS?

A. It is important for the ROE authorized in this proceeding to take into consideration the capital market conditions with which the Company must

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[4] *Northwestern Public Service v. Cities of Chamberlain, etc.*, 265 N.W.2d 867, 873 (S.D. 1978), quoting *Bluefield Waterworks Improvement Co. v. Public Service Commission of West Virginia*, 262 U.S. 679, 693 (1923 (Emphasis added); the same quotation and standard was applied in *Application of Northwestern Bell Tel. Co.*, 98 N.W.2d 170, 179-180 (S.D. 1959). Emphasis added.

contend, as well as investors' expectations and requirements for both risks and returns. Further, in light of recent capital market conditions and the Company's extensive capital investment requirements, it is particularly important that the Company be afforded the opportunity to maintain a financial profile, including a reasonable ROE in South Dakota, that will enable it to access the capital markets at reasonable rates.

V. NSPM'S PROJECTED CAPITAL INVESTMENT

Q. PLEASE SUMMARIZE THE COMPANY'S PROJECTED CAPITAL EXPENDITURE PLANS.

A. NSPM's current projections include approximately $5.325 billion of capital expenditures for the period from 2014 through 2018.[5] These investments are primarily related to electric transmission and generation projects. Importantly, these capital investments in transmission and generation are not related to customer growth and will not produce additional revenue for NSPM in South Dakota.

Q. HOW IS THE COMPANY'S RISK PROFILE AFFECTED BY THE LEVEL OF ITS CAPITAL EXPENDITURE REQUIREMENTS?

A. As with any utility faced with substantial capital expenditure requirements, NSPM's risk profile is adversely affected because the heightened level of investment increases NSPM's risk of under-recovery, or delayed recovery of the invested capital.

[5] Xcel Energy 2013 Annual Report to Shareholders, p. 69.

Q. DO CREDIT RATING AGENCIES RECOGNIZE THE RISKS ASSOCIATED WITH INCREASED CAPITAL EXPENDITURES?

A. Yes, they do. To that point, a May 2012 report from Standard & Poor's (S&P) explains:

> [F]or a company to preserve its financial strength, it must be able to quickly begin recovering this [infrastructure] spending.
>
> ***
>
> To retain critical access to the debt markets, utilities will need to continue to seek and receive supportive cost recovery from regulators.
>
> ***
>
> As companies spend on investments, a significant consideration for regulated utilities will be how quickly regulators allow them to fully recover these costs. If the costs are significant, any delays or denials in the recovery could hurt a utility's credit quality. Thus, regulatory support is necessary to successfully implement such projects. Cost recovery through base rates and rate mechanisms that provide for predictable and timely cash flow could offset the costs of a company's capital spending. These mechanisms help provide timely and consistent recovery of costs and bolster financial measures by limiting cash-flow drains and reducing the amount of debt needed during construction. Ultimately, the dollar amount of the costs and the timeliness in recovering them will be important factors affecting our view of a utility's credit quality.[6]

Q. WHAT ARE THE IMPLICATIONS OF THESE FACTORS FOR THE COMPANY'S COST OF EQUITY AND THE APPROPRIATE ROE IN THIS PROCEEDING?

A. To the extent that NSPM's rates do not permit it to recover its full cost of doing business, the Company will face increased recovery risk and thus increased pressure on its credit metrics. In addition, investors are concerned

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[6] Standard & Poor's, *U.S. Utilities' Capital Spending is Rising, And Cost-Recovery is Vital*, May 14, 2012, at 6-7.

with regulatory risk and the level of support shown by regulatory jurisdictions for a utility's capital expenditure programs. An unreasonably low ROE award in the context of a substantial capital expenditure program would signal a lack of regulatory support. Such a signal can cause investors to view a jurisdiction as being higher risk and a less attractive investment opportunity. This factor is significant because investors have many alternatives, and the ability to earn a reasonable return on investment is one of the criteria for selecting among investment alternatives of comparable risk.

VI. CAPITAL MARKET ENVIRONMENT

Q. PLEASE SUMMARIZE THE CURRENT INTEREST RATE ENVIRONMENT.

A. As discussed in more detail below, long-term interest rates are expected to increase substantially over the next few years. Chart 2, below, shows that interest rates on long-term U.S. Treasury bonds increased significantly in 2013 after being near their lowest level in the past 35 years due primarily to the effects of Quantitative Easing by the Federal Reserve. Specifically, the 30-day average yield on 30-year U.S. Treasury bonds increased from 2.85 percent on January 1, 2013 to 3.87 percent on December 31, 2013. Similarly, utility bond yields, as measured by the Moody's Investor Services (Moody's) Baa-rated utility bond index, also increased significantly in conjunction with higher yields on government bonds. For example, the 30-day average yield on Baa-rated utility bonds increased from 4.52 percent on January 1, 2013 to 5.25 percent on December 31, 2013. Interest rates on both government and utility

bonds have receded slightly in 2014,[7] as investors digest the withdrawal of monetary stimulus by the Federal Reserve. However, as I will explain, long-term interest rates are expected to increase substantially over the next few years.

Q. WHAT EVIDENCE IS THERE THAT LONG-TERM INTEREST RATES ARE EXPECTED TO INCREASE?

A. The 30-day average yield on the 30-year U.S. Treasury bond as of March 31, 2014 was 3.63 percent. By contrast, the Blue Chip Financial Forecasts (Blue Chip) consensus estimate projects that the average yield on the 30-year U.S. Treasury bond will increase to 5.00 percent for the period from 2015 through 2019.[8] Thus, the consensus estimate from leading economists is for an increase of 137 basis points in U.S. Treasury bond yields over the next several years.

Q. WHAT EFFECT DO RISING INTEREST RATES HAVE ON THE COST OF EQUITY?

A. The potential for rising interest rates indicates that the calculated Cost of Equity for the proxy companies using current market data is likely to lag investors' required return during the period that NSPM's rates will be in effect. Consequently, rising interest rates support selection of a return toward the upper end of a reasonable range of Cost of Equity estimates.

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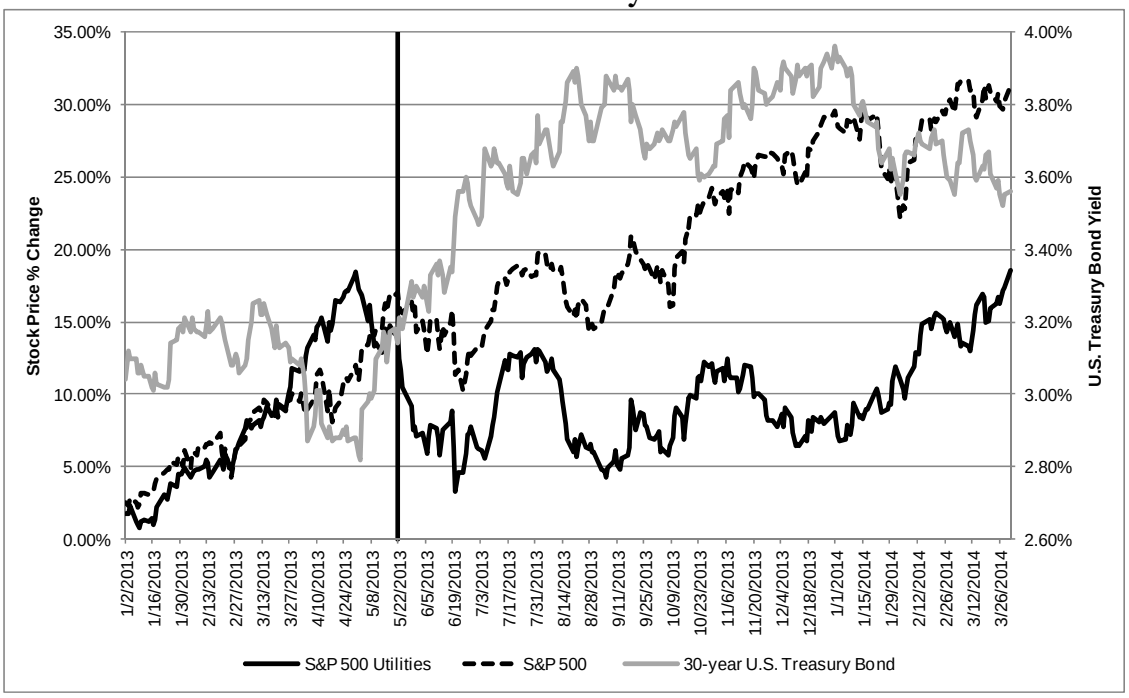
[7] As shown in Exhibit __(AEB-1), Schedule 6, the 30-day average yield on Treasury bonds as of January 31, 2014 was 3.81 percent as compared with 3.87 percent as of December 31, 2013.

[8] Blue Chip Financial Forecasts, Vol. 32, No. 12, December 1, 2013, at 14.

Q. DOES THE EQUITY MARKET'S REACTION TO THE RISING INTEREST RATE ENVIRONMENT SUPPORT THIS CONCLUSION?

A. Yes. Chart 2 compares the performance of the S&P 500 Index and the S&P Utilities Index against the level of 30-year Treasury yields from January 1, 2013 through March 31, 2014.

Chart 2: Comparison of Returns for S&P 500 and S&P 500 Utilities Index to 30-Year Treasury Yields



As shown on the chart, the S&P Utilities Index was quite strong through April 2013. In May 2013, the Federal Open Market Committee (FOMC) indicated that it might consider tapering the economic stimulus plan. Since that time, interest rates on 30-year U.S. Treasury bonds have increased from approximately 2.80 percent in early May 2013 to approximately 3.56 percent by March 31, 2014. Over that same time period, the S&P 500 Index initially declined in May and June 2013 but has since exceeded its April 2013 level, while the S&P Utilities Index remains several percentage points below its

April 2013 peak. This demonstrates the effect that rising interest rates have on utility stocks relative to the broader market. Specifically, rising interest rates make dividend yields less attractive for income-oriented investors, placing pressure on utility share prices relative to the S&P 500 Index.

Q. HAS THE FOMC RECENTLY CHANGED ITS MONETARY POLICY?

A. Yes. On December 18, 2013, the FOMC announced that it would start withdrawing the extraordinary monetary stimulus that has been in place for the last few years. The FOMC continued tapering the asset purchase program (Quantitative Easing) at its January meeting. In a press release issued on January 29, 2014, the FOMC explained its approach to reducing asset purchases:

> In light of the cumulative progress toward maximum employment and the improvement in the outlook for labor market conditions, the Committee decided to make a further measured reduction in the pace of its asset purchases. Beginning in February, the Committee will add to its holdings of agency mortgage-backed securities at a pace of $30 billion per month rather than $35 billion per month, and will add to its holdings of longer-term Treasury securities at a pace of $35 billion per month rather than $40 billion per month.[9]

In March 2014, the FOMC announced further reductions in its asset purchases, reducing Mortgage-backed security purchases to $25 billion per month and longer-term Treasury securities to $30 billion. This represents an additional $10 billion reduction in monetary stimulus.[10] In addition, the FOMC removed its reference to a specific unemployment rate that would cause it to consider starting to raise short-term interest rates. The FOMC had

[9] Federal Open Market Committee Statement, January 29, 2014.

previously indicated that it would not consider raising short-term rates until the unemployment rate fell below 6.5 percent.

Q. WHAT IS THE FINANCIAL MARKET'S EXPECTATION REGARDING THE FEDERAL RESERVE'S PLANS?

A. The April 2014 issue of Blue Chip surveyed market participants concerning their views regarding the timing of possible future rate increases by the Federal Reserve. Blue Chip reports that 96 percent of market participants surveyed expect the Federal Reserve to conclude its asset purchase program by the end of 2014. Further, 92 percent of market participants surveyed by Blue Chip expect that the Federal Reserve will start raising the target for short-term interest rates at some point during 2015. [11]

Q. WHAT ARE YOUR CONCLUSIONS REGARDING THE EFFECT OF HIGHER INTEREST RATES FOR ELECTRIC UTILITY COMPANIES SUCH AS NSPM?

A. My primary conclusion is that the interest rate environment is a significant risk factor for electric utility companies over the next few years. If the allowed ROE is set at a level that fails to reflect the market's expectation for higher interest rates, then electric utility companies such as NSPM will not have a reasonable opportunity to earn a return that is comparable with other investments of commensurate risk over the period that rates are likely to be in effect. Therefore, I recommend an authorized ROE for NSPM that takes into consideration the likelihood that borrowing costs will continue to increase over the next several years.

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[10] Federal Open Market Committee Statement, March 19, 2014.

Q. WHY ARE INVESTOR EXPECTATIONS FOR THE FUTURE IMPORTANT TO CONSIDER IN SETTING THE ROE WHEN THE COMPANY'S TEST YEAR IS HISTORICAL?

A. A test year, including a historical test year, is intended to establish rates that are appropriate for the period in which those rates will be in effect, in this case beginning in 2015. The ROE that is established in any rate proceeding is intended to be a reasonable return that is comparable to the returns that are available in the market on risk-comparable investments. Therefore, even though the operating costs are based on a historical test year, the ROE that is being set by the Commission in this case should be a return that will meet investors' required returns in the current market. As such, the models that have typically been relied upon to estimate the ROE are specified using current and projected market information, whether the test year is historical or projected. The Commission has similarly used projected market data in the ROE models in connection with a historic test year.[12]

VII. PROXY GROUP SELECTION

Q. WHY HAVE YOU USED A GROUP OF PROXY COMPANIES TO DETERMINE THE COST OF EQUITY FOR NSPM?

A. In this proceeding, we are focused on estimating the Cost of Equity for NSPM's electric utility operations in South Dakota. Since the ROE is a

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[11] Blue Chip Financial Forecasts, Volume 33, No. 4, April 1, 2014, at 14.

[12] Docket No. EL11-019, In the Matter of the Application of Northern States Power Company DBA Xcel Energy for Authority to Increase its Electric Rates, Final Decision and Order; Notice of Entry, para 21.

market-based concept, and given that NSPM's South Dakota operations are not a separate publicly-traded entity, it is necessary to establish a group of companies that are both publicly-traded and comparable to NSPM in certain fundamental business and financial respects to serve as its "proxy" in the ROE estimation process.

Even if the Company's South Dakota operations were a separate publicly-traded entity, transitory events could bias its market value in one way or another over a given period of time. A significant benefit of using a proxy group is that it moderates the effects of unusual events that may be associated with any one company. The proxy companies used in my analyses all possess a set of operating and risk characteristics that are substantially comparable to the Company, and thus provide a reasonable basis to derive and estimate the appropriate ROE for NSPM.

Q. PLEASE PROVIDE A BRIEF PROFILE OF NSPM.

A. The Company provides electric utility service to approximately 84,000 residential and commercial customers in South Dakota. NSPM's rate base in South Dakota is approximately $408 million.[13] The Company's long-term issuer rating from S&P is A-, from Moody's is A2, and from Fitch Ratings (Fitch) is A-. NSPM's senior unsecured rating issued by Moody's is A2.[14] NSPM's earnings generally contribute 35 percent to 45 percent of XEI's consolidated net income.[15]

[13] Source: Company provided data.
[14] S&P's and Fitch do not provide ratings for NSPM's senior unsecured debt.
[15] Northern States Power-Minnesota, 2013 SEC Form 10-K, at 6.

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

A. I began with the group of 47 companies that Value Line classifies as electric utilities, and I simultaneously applied the following screening criteria to exclude companies that:

- Do not pay consistent quarterly cash dividends because such companies cannot be analyzed using the DCF model.
- Do not have positive long-term earnings growth forecasts from at least two equity analysts.
- Do not have investment grade long-term issuer ratings from both S&P and Moody's.
- Do not own regulated generation assets in rate base.
- Derive less than 60 percent of total operating income from regulated operations.
- Derive less than 90 percent of total regulated operating income from regulated electric operations.
- Were party to a merger or transformative transaction during the analytical period considered.

Q. DID YOU INCLUDE XCEL ENERGY IN YOUR PROXY GROUP?

A. No, I did not. It is my practice to exclude the subject company, and its parent holding company, due to the circular logic that would result from using the cost of equity of a utility's parent to determine the utility's cost of equity.

Q. HOW MANY COMPANIES MET THOSE SCREENING CRITERIA?

A. An initial proxy group of 18 companies met those criteria.

Q. DID YOU CONSIDER ADDITIONAL FACTORS TO DEVELOP YOUR FINAL PROXY GROUP?

A. Yes, I did. I also considered the operating profile of each of the companies that met my initial screening criteria to be certain that each company was consistent with my intent to produce a proxy group that is comparable to NSPM. Based on that review, I excluded four additional companies: Edison International; IDACORP; Northeast Utilities; and PG&E Corp.

Edison International experienced significant losses in its unregulated operations in 2011. Specifically, Edison International recorded a loss of $1.09 billion in its competitive power generation business segment, Edison Mission Electric (EME).[16] Furthermore, on November 1, 2012, Edison International reported that EME would not be able to repay $500 million in bonds that mature in June 2013. In December 2012, EME filed for bankruptcy protection under Chapter 11 of the U.S. Bankruptcy Code. Due to the magnitude of the losses in 2011 and the bankruptcy filing of EME in December 2012, it is not reasonable to include Edison International in the proxy group at this time.

From September 2003 to October 2011, IDACORP did not raise its quarterly dividend even though earnings were increasing during this period. This caused the dividend payout ratio to fall well below the industry average. While IDACORP has started raising its dividend payment, the payout ratio remains well below the industry average. Value Line recently noted that IDACORP plans to continue increasing the dividend distribution until it reaches a payout

[16] Edison International, 2011, SEC Form 10-K, at 54.

ratio between 50 percent and 60 percent.[17] This change in IDACORP's stated dividend policy corresponds with an increase in its share price, as investors anticipate the higher dividend payments, thereby temporarily compressing the actual dividend yield for IDACORP in the DCF analysis. Since this change in the dividend yield for IDACORP should be temporarily related to the short-term dividend policy, and is not sustainable in perpetuity, it is not appropriate to include IDACORP in the DCF analyses at this time. Therefore, I have excluded IDACORP from the proxy group at this time.

Northeast Utilities is predominantly considered a transmission and distribution company. Public Service of New Hampshire is the only one of four electric operating companies owned by Northeast Utilities that owns generation assets. The New Hampshire Public Utilities Commission is currently investigating whether it would be appropriate to order Public Service of New Hampshire to divest its generating assets. Given the fact that NSPM has a significant portfolio of regulated generation assets, it is reasonable to exclude Northeast Utilities from the proxy group at this time.

PG&E Corp. continues to face substantial penalties and cost disallowance stemming from the San Bruno pipeline incident that occurred in September

[17] Value Line Investment Survey, IDACORP, January 31, 2014.

2010, which could have a total shareholder impact of over $4 billion.[18] Due to the magnitude of the potential fines and cost disallowance, it is not reasonable to include PG&E Corp. in the proxy group at this time.

Q. WHAT IS THE COMPOSITION OF YOUR FINAL PROXY GROUP FOR NSPM?

A. My final proxy group for NSPM includes the following 14 companies.

Table 3: Final Proxy Group

Company	Ticker
ALLETE, Inc.	ALE
American Electric Power	AEP
Cleco Corp.	CNL
DukeEnergy Corporation	DUK
Empire District Electric	EDE
Great Plains Energy Inc.	GXP
Hawaiian Electric	HE
NextEra Energy Corp.	NEE
Otter Tail Corp.	OTTR
Pinnacle West Capital	PNW
Portland General	POR
PNM Resources, Inc.	PNM
Southern Co.	SO
Westar Energy	WR

[18] Value Line Investment Survey, PG&E Corp., January 31, 2014. The Company has incurred material unrecovered costs of upgrading its pipeline system. It also paid $565 million for third-party liability claims. (As of September 30th, insurance recoveries have totaled $352 million.) All of these items are included in our earnings presentation, which is the main reason why profits are well below the level of five years ago. The utility is awaiting the outcome of investigations by the California Public Utilities Commission (CPUC), which it completed in October. The CPUC's public safety division has already proposed a $300 million fine and recommended that shareholders bear an additional $1.51 billion of costs. Including costs that have been incurred or committed, this would bring the total shareholder impact to $4.23 billion.

VIII. COST OF EQUITY ESTIMATION

Q. PLEASE BRIEFLY DISCUSS THE ROE IN THE CONTEXT OF THE ROR.

A. The overall ROR for a regulated utility is based on its weighted average cost of capital, in which the cost rates of the individual sources of capital are weighted by their respective book values. While the costs of debt and preferred stock can be directly observed, the Cost of Equity is market-based and, therefore, must be estimated based on observable market information.

Q. HOW IS THE REQUIRED ROE DETERMINED?

A. The required ROE is estimated by using one or more analytical techniques that rely on market-based data to quantify investor expectations regarding the required Cost of Equity, adjusted for certain incremental costs and risks. By their very nature, quantitative models produce a range of results from which the market required ROE is selected. The key consideration in determining the ROE is to ensure that the methodologies employed reasonably reflect investors' view of the financial markets in general, and the subject company (in the context of the proxy group) in particular.

Q. WHAT METHODS DID YOU USE TO DETERMINE THE COMPANY'S ROE?

A. I considered the results of both the Constant Growth and Multi-Stage forms of the DCF model and the CAPM, corroborated by the Bond Yield Plus Risk Premium methodology. As discussed in more detail below, a reasonable ROE estimate appropriately considers alternative methodologies, observable market data, and the reasonableness of their individual and collective results.

Q. WHY DO YOU BELIEVE IT IS IMPORTANT TO USE MORE THAN ONE ANALYTICAL APPROACH?

A. It is important to use more than one approach because the Cost of Equity is not directly observable, and therefore must be estimated based on both quantitative and qualitative information. When faced with the task of estimating the Cost of Equity, analysts and investors are inclined to gather and evaluate as much relevant data as reasonably can be analyzed. As a result, a number of models have been developed to estimate the Cost of Equity. For that reason, I use multiple approaches to estimate the Cost of Equity. Analysts and academics understand that Cost of Equity models are tools to be used in the Cost of Equity estimation process and that strict adherence to any single approach, or the specific results of any single approach, can lead to flawed conclusions. Consistent with the *Hope* finding, it is the analytical result, not the methodology employed, that is controlling in arriving at ROE determinations.

Q. CAN THE RESULTS OF THE COST OF EQUITY ESTIMATION MODELS BE AFFECTED BY DIFFERENT MARKET CONDITIONS?

A. Yes, in recent market conditions, certain of the Cost of Equity estimation models have produced less reliable results. For example, in recent commentary on the electric utility industry, Value Line observes that many of the companies are currently trading at prices near their three-to-five year price targets.[19] Value Line effectively cautions investors that current valuations already reflect the projected earnings growth for these companies, and that investors should look elsewhere for better return potential. These high valuations result in artificially low dividend yields, which may explain why the

results of the Constant Growth DCF analysis are currently so low. Furthermore, the CAPM more directly reflects changes in interest rates. Therefore, as the FOMC continues to temper its accommodative Monetary Policy and as interest rates continue to rise, the results of the CAPM will reflect the changes in interest rates.

Q. HAS THE EFFECTIVENESS OF THE TRADITIONAL COST OF EQUITY ESTIMATION MODELS BEEN QUESTIONED BY ANY MAJOR REGULATORY AGENCIES?

A. Yes. The Surface Transportation Board (STB), which regulates the U.S. railroad industry, began evaluating the effectiveness of the Constant Growth DCF model in September 2006. The STB instituted a broad rulemaking to obtain public comment on the most appropriate methodology to use for estimating the ROE. In January 2008, the STB replaced the Constant Growth DCF model with the CAPM, with the expectation that this model would produce more accurate estimates of the industry's cost of capital. In January 2009, as a result of its exploration of the various forms of ROE estimation models and the review of public comments on the merits and shortcomings of each of the models, the STB issued a decision modifying its sole reliance on the CAPM method to include an equal weighting of the CAPM and the Multi-Stage DCF results. In reaching this decision, the STB concluded that:

> Indeed, if our exploration of this issue has revealed nothing else, it has shown that there is no single simple or correct way to estimate the cost of equity for the railroad industry, and countless reasonable options are available. Both the CAPM and the multi-stage DCF models we propose to use

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[19] Value Line Investment Survey, Electric Utility (West) Industry, January 31, 2014.

> have strengths and weaknesses, and both take different paths to estimate the same illusory figure. By using an average of the results produced by both models, we harness the strengths of both models while minimizing their respective weaknesses.[20]

The reasoning reflected in this decision supports my view that it is appropriate to consider the results of various financial models to estimate the Cost of Equity within the context of capital market conditions, and that the appropriate method(s) can evolve over time as market conditions change.

Q. IS THE SIGNIFICANCE OF THIS ANALYSIS AND DECISION DIMINISHED BECAUSE THE STB DOES NOT REGULATE THE ENERGY INDUSTRY?

A. No, it is not. The STB decision is a significant and thoughtful ROE decision, and therefore it is relevant regardless of the industry. That decision describes the rigorous analysis and the methodologies that the STB used to review financial models and to select the most appropriate models in the context of capital market conditions in order to estimate the Cost of Equity. As the STB decision points out, the models used to estimate the Cost of Equity are used by the investment community for all types of investments, and therefore it is not important that the STB does not regulate energy companies. Rather, what is important is that the methodologies used reflect what investors consider in establishing their return requirements.

[20] Surface Transportation Board, Use of a Multi-Stage Discounted Cash Flow Model in Determining the Railroad Industry's Cost of Capital, Decision STB Ex Parte No. 664 (Sub-No. 1), released January 28, 2009, at 15.

A. The DCF Model

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

A. Yes. DCF models are widely used in regulatory proceedings and have sound theoretical bases, although neither the DCF model nor any other model can be applied without considerable judgment in the selection of data and the interpretation of results. In its simplest form, the DCF model expresses the Cost of Equity as the sum of the expected dividend yield and the long-term growth rate. The formula for the Constant Growth DCF approach is provided in Appendix A.

B. Constant Growth DCF Model

Q. WHAT ASSUMPTIONS ARE REQUIRED FOR THE CONSTANT GROWTH DCF MODEL?

A. The Constant Growth DCF model requires the following assumptions: (1) a constant growth rate for earnings and dividends; (2) a stable dividend payout ratio; (3) a constant price-to-earnings ratio; and (4) a discount rate greater than the expected growth rate. To the extent that any of these assumptions is violated, considered judgment and/or specific adjustments should be applied to the results.

Q. WHAT MARKET DATA DID YOU USE TO CALCULATE THE DIVIDEND YIELD IN YOUR CONSTANT GROWTH DCF MODEL?

A. As shown in Exhibit ___(AEB-1), Schedule 3, the dividend yield in my Constant Growth DCF model is based on the proxy companies' current

annualized dividend and average closing stock prices over the 30, 90, and 180 trading days ended March 31, 2014.[21]

Q. WHY DID YOU USE THREE AVERAGING PERIODS?

A. It is important to use an average of recent trading days to calculate the term P_0 in the DCF model to ensure that the ROE is not skewed by anomalous events that may affect stock prices on any given trading day. The averaging period should also be reasonably representative of expected capital market conditions over the long-term. At the same time, it is important to reflect the conditions present in the financial markets over the recent past. In my view, the use of the 30-, 90-, and 180-day averaging periods reasonably balances those concerns.

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

A. Yes, I did. Since utility companies tend to increase their quarterly dividends at different times throughout the year, it is reasonable to assume that dividend increases will be evenly distributed over calendar quarters. Given that assumption, it is reasonable to apply one-half of the expected annual dividend growth rate for purposes of calculating the expected dividend yield component of the DCF model.

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

A. Yes, it is. In its Constant Growth form, the DCF model assumes a single growth estimate in perpetuity. In order to reduce the long-term growth rate

[21] *See,* Exhibit__(AEB-1), Schedule 3.

to a single measure, one must assume a constant payout ratio, and that earnings per share, dividends per share, and book value per share all grow at the same constant rate. Over the long run, however, dividend growth can only be sustained by earnings growth. Therefore, it is important to incorporate a variety of sources of long-term earnings growth rates into the Constant Growth DCF model.

Q. WHICH SOURCES OF LONG-TERM EARNINGS GROWTH RATES DID YOU USE?

A. My Constant Growth DCF model incorporates three sources of long-term earnings growth rates: (1) Zacks Investment Research; (2) Thomson First Call (provided by Yahoo! Finance); and (3) Value Line Investment Survey.

C. Multi-Stage DCF Model

Q. DID YOU ALSO CONSIDER ANOTHER FORM OF THE DCF MODEL?

A. Yes. In order to address some of the limiting assumptions underlying the Constant Growth form of the DCF model (*i.e.,* that earnings/dividend growth will continue at current rates in perpetuity), and consistent with the STB decision discussed previously, I also considered the results of a Multi-Stage DCF model.[22] As with the Constant Growth form of the DCF model, the Multi-Stage form defines the Cost of Equity as the discount rate that sets the current price equal to the discounted value of future cash flows. The specific form of the Multi-Stage DCF model is presented in Appendix A.

Q. WHAT ARE THE BENEFITS OF A MULTI-STAGE MODEL?

A. The Multi-Stage model, which is an extension of the Constant Growth form, enables the analyst to specify different growth rates over multiple stages.

Further, the three-stage model allows for a gradual transition from the first stage growth rate to the long-term growth rate, thereby avoiding the often unrealistic assumption that growth will change abruptly between the first and final stages.

Q. PLEASE GENERALLY DESCRIBE THE STRUCTURE OF YOUR MULTI-STAGE DCF MODEL.

A. The Multi-Stage DCF model sets the subject company's current stock price equal to the present value of future cash flows received over three "stages." In all three stages, cash flows are equal to the annual dividend payments that stockholders receive. Stage one is a short-term growth period that consists of the first five years; stage two is a transition period from the short-term growth rate to the long-term growth rate which occurs over five years (*i.e.*, years six through 10); and stage three is a long-term growth period that begins in year 11 and continues in perpetuity (*i.e.*, year 200). The ROE is then calculated as the rate of return that results from the initial stock investment and the dividend payments over the analytical period.

Q. PLEASE SUMMARIZE THE INPUTS USED IN YOUR MULTI-STAGE DCF MODEL.

A. I began with the current annualized dividend as of March 31, 2014 for each proxy group company. As shown in Exhibit___ (AEB-1), Schedule 4, in the first stage of the model, the current annualized dividend is escalated based on the average of the three- to five-year earnings growth estimates reported by First Call, Zacks, and Value Line. For the third stage of the model, I relied on

[22] *See*, Exhibit___(AEB-1), Schedule 4.

long-term projected growth in nominal Gross Domestic Product (GDP). The second stage growth rate is a transition from the first stage growth rate to the long-term growth rate on a geometric average basis.

Q. HOW DID YOU CALCULATE THE LONG-TERM GDP GROWTH RATE?

A. As shown in Exhibit___(AEB-1), Schedule 4, the long-term growth rate of 5.51 percent is based on the real GDP growth rate of 3.27 percent from 1929 through 2013,[23] and a projected inflation rate of 2.17 percent. The rate of inflation of 2.17 percent is based on three measures: (1) the average long-term projected growth rate in the Consumer Price Index (CPI) of 2.30 percent, as reported by Blue Chip Financial Forecasts (Blue Chip);[24] (2) the compound annual growth rate of the CPI for all urban consumers for 2023-2040 of 2.23 percent as projected by the Energy Information Administration (EIA) in the Annual Energy Outlook 2014 Early Release; and (3) the compound annual growth rate of the GDP chain-type price index for 2023-2040 of 1.97 percent, also reported by the EIA in the Annual Energy Outlook 2014 Early Release.[25]

D. Flotation Cost Recovery

Q. WHAT ARE FLOTATION COSTS?

A. Flotation costs are the costs associated with the sale of new issues of common stock. These costs include underwriter discounts; audit, legal and listing fees; printing costs; and other direct issuance expenses.

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[23] U.S. Department of Commerce, Bureau of Economic Analysis, accessed March 27, 2014.

[24] Blue Chip Financial Forecasts, Vol. 32, No. 12, December 1, 2013, at 14.

Q. DOES THE DCF MODEL INCORPORATE INVESTOR EXPECTATIONS OF AN ROE THAT COMPENSATES FOR FLOTATION COSTS?

A. No. All the models used to estimate the appropriate ROE, including the DCF model, assume no "friction" or transaction costs, as these costs are not reflected in the market price (in the case of the DCF model). Therefore, it is necessary to consider flotation costs when estimating the Company's ROE.

Q. HAS THE NEED FOR A FLOTATION COST ADJUSTMENT BEEN RECOGNIZED BY THE COMMISSION?

A. Yes. For example, in NSPM's 2011 electric rate case, the Commission stated: "The Commission agrees that recovery of reasonable flotation costs is appropriate and has included an allowance for flotation costs in its approved ROE."[26]

Q. HAS XEI RECENTLY ISSUED COMMON EQUITY?

A. Yes. XEI closed on an equity issuance of approximately $225 million (7,757,449 shares of common stock) in March 2013. It is also reasonable to expect that the Company may need to access the equity market in the next several years on a more regular basis than in the past in order to finance its capital investment plan.

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[25] U.S. Energy Information Administration, Annual Energy Outlook 2014 Early Release, Table 20, Macroeconomic Indicators.

[26] South Dakota Public Utilities Commission, Final Decision and Order, Docket EL 11-019, issued July 2, 2012, at 6.

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

A. Yes. I have modified the DCF calculation to provide a dividend yield that would reimburse investors for issuance costs. Based on the issuance costs provided in Exhibit__(AEB-1), Schedule 5, an adjustment of 0.20 percent (*i.e.*, 20 basis points) is reflective of flotation costs for the Company. Table 4, below, presents the DCF results including flotation costs.

E. DCF Model Results

Q. HOW DID YOU CALCULATE THE RANGE OF RESULTS FOR THE CONSTANT GROWTH AND MULTI-STAGE DCF MODELS?

A. I calculated the low growth result for both DCF models using the minimum growth rate (*i.e.*, the lowest of the First Call, Zacks, and Value Line earnings growth rates) for each proxy group company. I used a similar approach to calculate the high growth rate results, using the highest growth rate for each proxy group company.

Q. PLEASE SUMMARIZE THE RESULTS OF YOUR DCF ANALYSES.

A. Table 4 (*see* also Exhibit__(AEB-1), Schedule 3 and Exhibit__(AEB-1), Schedule 4) presents the results of the Constant Growth and Multi-Stage DCF models.

Table 4: DCF Analyses Results (Including Flotation Costs)

Constant Growth DCF			
	Mean (Low Growth)	Mean	Mean (High Growth)
30-Day Average Price	8.61%	9.85%	11.18%
90-Day Average Price	8.73%	9.97%	11.30%
180-Day Average Price	8.78%	10.02%	11.35%
Multi-Stage DCF			
	Mean (Low Growth)	Mean	Mean (High Growth)
30-Day Average Price	9.69%	10.01%	10.40%
90-Day Average Price	9.82%	10.15%	10.55%
180-Day Average Price	9.87%	10.20%	10.61%

Q. DO YOU BELIEVE THE CONSTANT GROWTH DCF MODEL IS PRODUCING REASONABLE RESULTS AT THIS TIME?

A. No, I do not. As shown in Exhibit (AEB-1), Schedule 3, the Constant Growth DCF model produces individual company results as low as 6.92 percent, or only 188 basis points above the Company's cost of long-term debt. Such returns do not provide a sufficient risk premium to compensate equity investors for the residual risks of ownership, including the risk that they have the lowest claim on the assets and income of the Company. Furthermore, the mean low Constant Growth DCF results are below an acceptable range of returns for an electric utility and below any authorized ROE for an electric utility company for at least the last 25 years.[27] Such low DCF results are not consistent with returns on equity awarded to electric utility companies of comparable risk in 2012 and 2013, and therefore do not

[27] SNL Financial provides historical authorized returns from 1987-present.

meet the comparable return requirements of *Hope* and *Bluefield* that the Commission has adopted.

Q. WHAT ARE YOUR CONCLUSIONS ABOUT THE RESULTS OF THE CONSTANT GROWTH DCF MODEL?

A. As discussed above, investors have suggested that electric utility stocks and the stock market in general may be at higher price levels as a result of Federal intervention in the markets. It is possible that the result of recent monetary policy is high stock valuations that result in lower dividend yields. This would be a contributing factor to the low results of the DCF models. Furthermore, the Constant Growth DCF results are not corroborated by the results of other models, including the Multi-Stage DCF analysis and the CAPM analysis. For these reasons, I believe it is appropriate to give limited weight to the results of the Constant Growth DCF analysis at this time, and to consider other methods for estimating the Cost of Equity.

Q. WHAT IS YOUR CONCLUSION WITH REGARD TO THE RELEVANCE OF THE MULTI-STAGE DCF ANALYSIS IN THIS PROCEEDING?

A. I believe that the Multi-Stage DCF model produces more reliable results than the Constant Growth DCF model for electric utility companies at this time. The current high valuations and low dividend yields of electric utility companies may not be sustainable from an investor's perspective, especially given the likelihood of higher interest rates. In addition, the Multi-Stage DCF model more appropriately reflects expected growth over time compared to the Constant Growth DCF model. However, neither of the DCF models directly addresses the effect of rising interest rates on the Cost of Equity. For

that reason, the results of the CAPM analysis should also be considered under current market conditions.

F. CAPM Analysis

Q. PLEASE BRIEFLY DESCRIBE THE CAPM.

A. The CAPM is a risk premium approach that estimates the Cost of Equity for a given security as a function of a risk-free return plus a risk premium to compensate investors for the non-diversifiable or "systematic" risk of that security.[28] This second component is the product of the market risk premium times the Beta coefficient, which measures the relative riskiness of the security being evaluated. Thus, Beta represents the risk of the security relative to the general market. The specific form of the CAPM is presented in Appendix A.

Q. WHAT RISK-FREE RATE DID YOU USE IN YOUR CAPM ANALYSIS?

A. I relied on three estimates of the yield on U.S. Treasury bonds as my estimate of the risk-free rate: (1) the current 30-day average yield on 30-year U.S. Treasury bonds (*i.e.*, 3.63 percent);[29] (2) the projected 30-year U.S. Treasury bond yield for 2014 through 2015 of 4.15 percent;[30] and (3) the projected 30-year U.S. Treasury bond yield for 2015 through 2019 of 5.00 percent.[31]

Q. WHAT BETA COEFFICIENTS DID YOU USE IN YOUR CAPM ANALYSIS?

A. As shown on Exhibit ___ (AEB-1), Schedule 6, I used the average Beta coefficients for the proxy group companies as reported by Bloomberg and

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[28] The specific equation of the CAPM is provided in Appendix A.
[29] Bloomberg Professional, as of January 31, 2014.
[30] Blue Chip Financial Forecasts, Vol. 33, No. 1, January 1, 2014, at 2.

Value Line. Bloomberg calculates Beta coefficients based on two years of weekly returns relative to the S&P 500 Index. Value Line's calculation is based on five years of weekly returns relative to the New York Stock Exchange Composite Index.

Q. HOW DID YOU ESTIMATE THE MARKET RISK PREMIUM IN THE CAPM?

A. I estimated the market risk premium based on the expected return on the S&P 500 Index less the 30-year U.S. Treasury bond yield. The expected return on the S&P 500 Index is calculated using the Constant Growth DCF model discussed earlier in my Direct Testimony for the companies in the S&P 500 Index for which dividend yields and long-term earnings projections are available. Based on an estimated market capitalization-weighted dividend yield of 2.06 percent and a weighted long-term growth rate of 11.50 percent, the estimated required market return for the S&P 500 Index is 13.68 percent. The implied market risk premium over the current 30-day average of the 30-year U.S. Treasury bond yield, and the short- and near-term projected yields on the 30-year U.S. Treasury bond, ranges from 8.68 percent to 10.05 percent.

Q. WHAT ARE THE RESULTS OF YOUR CAPM ANALYSIS?

A. As shown in Table 5 (*see* also Exhibit ___(AEB-1), Schedule 6), the results of my CAPM analysis produce a range of returns from 11.46 percent to 11.81 percent. The mean returns using the average Bloomberg Beta coefficient and three measures of the risk-free rate is 11.65 percent. Using the average Value

[31] Blue Chip Financial Forecasts, Vol. 32, No. 12, December 1, 2013, at 14.

Line Beta coefficient and three measures of the risk-free rate, the mean result is 11.60 percent.

Table 5: CAPM Results

	Current Risk-Free Rate (3.63%)	2014-2015 Projected Risk-Free Rate (4.15%)	2015-2019 Projected Risk-Free Rate (5.00%)	Mean Result
Bloomberg Beta Coefficient	11.51%	11.62%	11.81%	11.65%
Value Line Beta Coefficient	11.46%	11.57%	11.76%	11.60%

Q. WHAT IS YOUR CONCLUSION REGARDING THE RESULTS OF THE CAPM ANALYSIS?

A. As discussed in more detail in Section VI of my Direct Testimony, the capital markets are anticipating that interest rates on both government and corporate bonds will continue to increase rather significantly over the next few years as the Federal Reserve withdraws its extraordinary monetary stimulus. For that reason, I believe that it is reasonable to place certain weight on the results of the CAPM analysis at this time because that model is the most sensitive to expected changes in interest rates.

G. Bond Yield Plus Risk Premium Analysis

Q. PLEASE DESCRIBE THE BOND YIELD PLUS RISK PREMIUM APPROACH YOU EMPLOYED.

A. In general terms, this approach is based on the fundamental principle that equity investors bear the residual risk associated with ownership and therefore

require a premium over the return they would have earned as a bondholder. That is, since returns to equity holders are more risky than returns to bondholders, equity investors must be compensated to bear that risk. Risk premium approaches, therefore, estimate the Cost of Equity as the sum of the equity risk premium and the yield on a particular class of bonds. In my analysis, I used actual authorized returns for electric utility companies as the historical measure of the Cost of Equity to determine the risk premium.

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

A. Yes. It is important to recognize both academic literature and market evidence indicating that the equity risk premium (as used in this approach) is inversely related to the level of interest rates. That is, as interest rates increase (decrease), the equity risk premium decreases (increases). Consequently, it is important to develop an analysis that: (1) reflects the inverse relationship between interest rates and the equity risk premium; and (2) is based on more recent and expected market conditions. Such an analysis can be developed based on a regression of the risk premium as a function of U.S. Treasury bond yields. If we let authorized ROEs for electric utility companies serve as the measure of required equity returns and define the yield on the long-term U.S. Treasury bond as the relevant measure of interest rates, the risk premium simply would be the difference between those two points.[32] The formula for

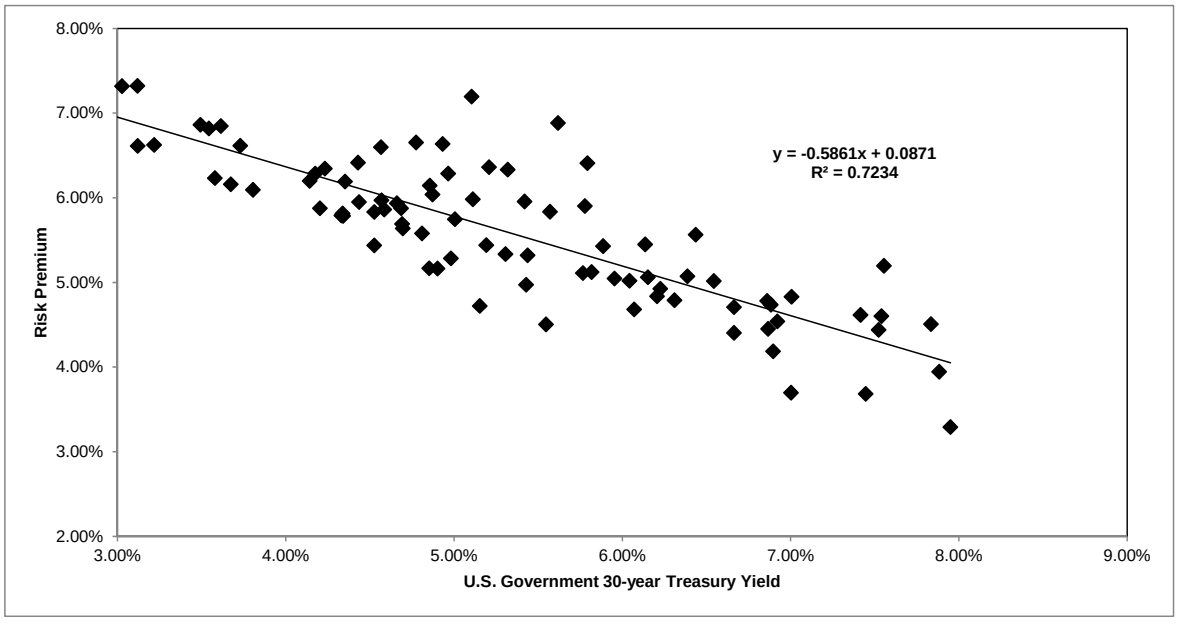
[32] *See e.g.*, S. Keith Berry, *Interest Rate Risk and Utility Risk Premia during 1982-93*, Managerial and Decision Economics, Vol. 19, No. 2 (March, 1998), in which the author used a methodology similar to the regression approach described below, including using allowed ROEs as the relevant data source,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

calculating the equity risk premium in the Bond Yield Plus Risk Premium analysis is provided in Appendix A.

Q. WHAT DID YOUR BOND YIELD PLUS RISK PREMIUM ANALYSIS REVEAL?

A. As shown on Chart 3, from 1992 through March 2014, there was a strong negative relationship between equity risk premia and interest rates. In other words, as the yield on 30-year Treasury securities decreases (increases) the equity risk premium increases (decreases). For example, when 30-year Treasury yields are approximately 4.00 percent, the equity risk premium has been approximately 6.36 percent. When 30-year Treasury yields have been around 5.00 percent, the equity risk premium has been approximately 5.78 percent.

Chart 3: Risk Premium Results



As shown on Exhibit ___(AEB-1), Schedule 7, based on the current 30-day average of the 30-year U.S. Treasury bond yield (*i.e.*, 3.63 percent), the risk

premium would be 6.58 percent, resulting in an estimated ROE of 10.21 percent. Based on the near-term (2014-2015) projections of the 30-year U.S. Treasury bond yield (*i.e.*, 4.15 percent), the risk premium would be 6.28 percent, resulting in an estimated ROE of 10.43 percent. Based on longer-term (2015-2019) projections of the 30-year U.S. Treasury bond yield (*i.e.*, 5.00 percent), the risk premium would be 5.78 percent, resulting in an estimated ROE of 10.78 percent.

IX. CAPITAL STRUCTURE AND COST OF DEBT

Q. WHAT IS NSPM'S PROPOSED CAPITAL STRUCTURE?

A. The Company is proposing a capital structure consisting of 53.86 percent common equity and 46.14 percent long-term debt, based on the thirteen-month period ended December 31, 2013.[33]

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

A. My analysis of the proxy group companies' actual capital structures is provided in Exhibit___(AEB-1), Schedule 8. As shown in that schedule, I calculated the mean and median proportions of common equity and long-term debt over the most recent eight quarters[34] for each of the proxy group companies. The Company's proposed equity ratio of 53.86 percent is within the range established by the mean and median common equity ratios for the proxy group companies of 53.99 percent and 52.87 percent, respectively.

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[33] *See* Statement G, p.1.

[34] The source data for this analysis is the operating company data provided in SEC Form 10-Q filings. Due to the timing of those filings, my average capital structure analysis uses the quarterly capital structures reported for the proxy group companies for the period from the fourth quarter of 2011 through the end of the third quarter of 2013.

Q. WHAT IS YOUR CONCLUSION REGARDING AN APPROPRIATE CAPITAL STRUCTURE FOR NSPM IN SOUTH DAKOTA?

A. Considering the actual capital structures of the proxy group companies, I believe that NSPM's proposed common equity ratio of 53.86 percent is reasonable relative to the proxy group companies.

Q. WHAT IS NSPM'S PROPOSED COST OF DEBT?

A. The cost of debt proposed by NSPM of 5.04 percent is the thirteenth-month average cost of debt for the period ending December 31, 2013.

X. SUMMARY AND CONCLUSION

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

A. Based on the various quantitative and qualitative analyses presented in my Direct Testimony and summarized in Table 6 below, and in light of the business and financial risks of NSPM relative to the proxy group, it is my view that an ROE of 10.25 percent is fair and reasonable and would balance the interests of customers and shareholders. Specifically, my ROE recommendation would enable the Company to maintain its financial integrity and therefore its ability to attract capital at reasonable rates under a variety of economic and financial market conditions, while continuing to provide safe, reliable electric utility service to customers in South Dakota.

Table 6: Summary of Analytical Results

	Mean Low	Mean	Mean High
Constant Growth DCF (including flotation costs)			
30-Day Average	8.61%	9.85%	11.18%
90-Day Average	8.73%	9.97%	11.30%
180-Day Average	8.78%	10.02%	11.35%
Multi-Stage DCF (including flotation costs)			
30-Day Average	9.69%	10.01%	10.40%
90-Day Average	9.82%	10.15%	10.55%
180-Day Average	9.87%	10.20%	10.61%
Capital Asset Pricing Model			
	Current Risk-Free Rate (3.63%)	**2014-2015 Projected Risk-Free Rate (4.15%)**	**2015-2019 Projected Risk-Free Rate (5.00%)**
Bloomberg Beta	11.51%	11.62%	11.81%
Value Line Beta	11.46%	11.57%	11.76%
Bond Yield Plus Risk Premium			
Risk Premium	10.21%	10.47%	10.78%

Q. WHAT IS YOUR CONCLUSION WITH RESPECT TO NSPM'S PROPOSED CAPITAL STRUCTURE?

A. My conclusion is that the Company's proposed capital structure consisting of 53.86 percent common equity and 46.14 percent long-term debt is reasonable compared to the range established by the proxy group companies.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, it does.