Northern States Power Company
Direct Testimony

OFFICIAL FILING
BEFORE THE
PUBLIC SERVICE COMMISSION OF WISCONSIN

Application of Northern States Power Company, a Wisconsin Corporation, for Authority to Adjust Electric and Natural Gas Rates

Docket No. 4220-UR-121

DIRECT TESTIMONY OF JAMES M. COYNE

I. INTRODUCTION AND QUALIFICATIONS

Q. Please state your name and business address.

A. My name is James M. Coyne, and I am employed by Concentric Energy Advisors, Inc. ("Concentric") as a Senior Vice President. Concentric is a management consulting and economic advisory firm, focused on the North American energy and water industries. Based in Marlborough, Massachusetts and Washington D.C., Concentric specializes in regulatory and litigation support, financial advisory services, energy market strategies, market assessments, energy commodity contracting and procurement, economic feasibility studies, and capital market analyses. My business address is 293 Boston Post Road West, Suite 500, Marlborough, MA 01752.

Q. Please describe the education and professional experience you have had that together qualify you to provide this testimony.

A. I am among Concentric's professionals who provide expert testimony before federal, state and Canadian provincial agencies on matters pertaining to economics, finance, and public policy in the energy industry. I regularly advise utilities, generating companies, public bodies and private equity investors on business issues pertaining to the utility industry. This work includes calculating the cost of capital for the purpose

of ratemaking and providing expert testimony and studies on matters pertaining to rate policy, valuation, capital costs, demand side management, low-income programs, fuels and power markets. In addition, I work with utilities, independent developers and public bodies on issues pertaining to the management and development of power generation, distribution and transmission facilities. I have authored numerous articles on the energy industry, lectured on utility regulation for regulatory commission staff, and provided testimony before the FERC as well as state and provincial jurisdictions in the U.S. and Canada. I have also testified before the Public Service Commission of Wisconsin ("PSCW" or "Commission").

Before joining Concentric, I was Senior Managing Director in the Corporate Economics Practice for FTI/Lexecon, and Managing Director of Arthur Andersen's Energy & Utilities Corporate Finance Practice. In those positions, I provided expert testimony and advisory services on mergers, acquisitions, divestitures and capital markets for clients in the energy industry. In addition to the foregoing prior positions, I was also Managing Director for Navigant Consulting, with responsibility for the firm's Financial Services practice, and Senior Economist for the Massachusetts Energy Facilities Siting Council, where I analyzed the supply plans and facilities proposals from the state's electric and gas utilities. I also served as State Energy Economist for the Maine Office of Energy Resources.

I hold a B.S. in Business Administration from Georgetown University and a M.S. in Resource Economics from the University of New Hampshire. My educational and professional background is summarized more fully on Ex.-NSPW-Coyne-1.

Q. On whose behalf are you submitting this testimony?

A. I am submitting this testimony on behalf of Northern States Power Company, a Wisconsin corporation ("NSPW" or the "Company"), a wholly owned subsidiary of Xcel Energy Inc. ("Xcel Energy").

II. PURPOSE AND OVERVIEW OF DIRECT 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 an appropriate return on equity ("ROE")[1] for the Company's regulated electric and gas utility operations. My analyses and conclusions are supported by the data presented in Ex.-NSPW-Coyne-2, Schedules 1 through 10, which have been prepared by me or under my direction.[2]

Q. Please provide a brief overview of the analyses that you conducted to support your ROE recommendation.

A. My ROE recommendation is based primarily on the range of results that I derive from the Discounted Cash Flow ("DCF") model, the Bond Yield Plus Risk Premium approach ("Risk Premium"), and the Capital Asset Pricing Model ("CAPM"). My application of the DCF model is based on reputable third-party growth rate projections, as well as market-based information on current annualized dividends and recent stock prices. My Risk Premium approach refers to actual authorized ROEs in both Wisconsin and nationwide.

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[1] I use the terms "ROE" and "cost of equity" interchangeably throughout my Direct Testimony.

[2] In the remainder of my testimony all references to "Schedules" are to the schedules contained in Ex.-NSPW-Coyne-2.

My recommendation also considers the general economic and capital market environment. I specifically consider the unusually low Treasury yields in the current market which, when combined with recent strong stock price performance, has the effect of unduly reducing the results of the DCF and CAPM models.

In addition to the analyses discussed above, I also consider the Company's capital expenditure program and other business risks in relation to a set of proxy companies (described later in my testimony) to assist with determining the appropriate ROE.

Q. What is your conclusion regarding the appropriate cost of equity for the Company?

A. The ROE results presented in my Direct Testimony indicate a range of 8.53 percent to 11.32 percent from a combination of models and alternative input assumptions. Based on this analysis, and in light of the business risks of NSPW compared to the proxy group, combined with my observations pertaining to capital market conditions, I recommend the Commission maintain the Company's currently authorized ROE of 10.20 percent.

Q. How is the remainder of your Direct Testimony organized?

A. The balance of my Direct Testimony is organized as follows: Section III provides background on the regulatory principles behind making an ROE determination in general. Section IV provides a context and foundation for my ROE determination, including an overview of NSPW and a history of the Company's ROE awards. Section V presents a review of current and projected economic and capital market conditions and their impacts on utility cost of capital. Section VI describes the criteria

and approach for the selection of a proxy group of comparable companies. Section VII provides a description of the data and methodologies used to estimate the cost of equity, as well as the results of the Constant Growth DCF, Multi-Stage DCF, Risk Premium and CAPM analyses. Section VIII provides an assessment of the business risk factors I have considered in arriving at an appropriate ROE for NSPW. Section IX reviews NSPW's proposed capital structure in the context of my proxy group. Section X summarizes my results, conclusions and recommendation.

III. REGULATORY PRINCIPLES

Q. Please describe the guiding principles used in establishing the cost of capital for a regulated utility.

A. The foundations of public utility regulation require that utilities receive a fair rate of return sufficient to attract needed capital at reasonable rates. The basic tenets of this regulatory doctrine originate from several bellwether decisions by the United States Supreme Court, notably *Bluefield Waterworks and Improvement Company v. Public Service Commission of West Virginia*, 262 U.S. 679 (1923) ("*Bluefield*"), and *Federal Power Commission v. Hope Natural Gas Company,* 320 U.S. 591 (1944) ("*Hope*"). In *Bluefield*, the Court stated:

> A public utility is entitled to such rates as will permit it to earn a return on the value of the property which it employs for the convenience of the public equal to that generally being made at the same time and in the same general part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties…
>
> The return should be reasonably sufficient to assure investor confidence in the financial soundness of the utility and should be adequate, under efficient and economical management, to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its public duties.

Later, in *Hope*, the Court established a standard for the ROE that remains the guiding principle for rate making regulatory proceedings to this day:

> [T]he 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.

Q. Does the Commission rely on these same basic principles?

A. Yes. For example, in its Final Decision in the Company's 2014 rate case (Docket No. 4220-UR-119), the Commission provided an overview of its standards for setting the ROE:

> The principle factor used to determine the appropriate return on equity is the investor's required return. Authorized returns less than the investors' required return would fail to compensate capital providers for the risks they face when providing funds to the utility. Such sub-par returns would make it difficult for a utility to raise capital on an ongoing basis. On the other hand, authorized returns that exceed the investors' required return would provide windfalls to utility investors as they would receive returns that are in excess of the necessary level.[3]

Q. Please briefly discuss how those principles apply in the context of the regulated rate of return.

A. Regulated utilities rely primarily on common stock and long-term debt to finance their permanent property, plant and equipment. The allowed rate of return for a regulated utility is based on its weighted average cost of capital, where the costs of the individual sources of capital, debt and equity, are weighted by their respective book values. The ROE represents the cost of raising and retaining equity capital, and it is

[3] Final Decision, Docket No. 4220-UR-119, p. 24.

estimated by using one or more analytical techniques that use market data to quantify investor expectations regarding equity returns.

However, the ROE cannot be derived through quantitative metrics and models alone. To properly estimate the ROE, the financial, regulatory and economic context in which the analysis takes place must also be considered. As the Commission has noted, "[I]f the investors' required return could be measured precisely, setting the authorized return would be straightforward."[4] The DCF, Risk Premium and CAPM approaches, while fundamental to the ROE determination, are still only models, and one should not assume that the results of these models can be mechanistically applied without also considering judgment and the context of capital market conditions and the relative risk of NSPW as compared to the proxy group companies.

Also, it is important to note that in *Hope*, the Supreme Court found that under the statutory standard of "just and reasonable" it is the result reached, not the method employed, which is controlling.[5] Consequently, it is appropriate to consider a variety of approaches and data sources when arriving at a recommended ROE.

Based on these widely recognized standards, the Commission's order in this case should provide NSPW with the opportunity to earn a return on equity that is:

- Commensurate with returns on investments in enterprises having comparable risks;
- Adequate to attract capital on reasonable terms, thereby enabling NSPW to provide safe, reliable service; and

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[4] *Ibid.*

[5] *Federal Power Commission v. Hope Natural Gas Company,* 320 U.S. 591, 602 (1944).

- Sufficient to ensure the financial soundness of NSPW's operations.

Importantly, a fair return must satisfy all three of these standards. The allowed ROE should enable NSPW to finance capital expenditures on reasonable terms and provide financial flexibility over the period during which rates are expected to remain in effect.

Q. What are your conclusions regarding regulatory guidelines and capital market expectations?

A. The ratemaking process is premised on the principle that, in order for investors and companies to commit the capital needed to provide safe and reliable utility services, the utility must have the opportunity to recover the return of invested capital, and the market-required return on that capital. Because utility operations are capital intensive, regulatory decisions should enable the utility to attract capital on favorable terms. Such decisions balance the long-term interests of customers and shareholders. The financial community carefully monitors the current and expected financial condition of utility companies, as well as the regulatory environment in which they operate. In that respect, the regulatory environment is one of the most important factors considered in both debt and equity investors' assessments of risk. It is therefore important for the ROE authorized in this proceeding to take into consideration the current and expected capital market conditions with which NSPW must contend, as well as investors' expectations and requirements regarding both risks and returns.

IV. CONTEXT FOR SETTING NSPW'S RETURN ON EQUITY

Q. Please provide a brief overview of NSPW's operations.

A. NSPW is an operating utility primarily engaged in the generation, transmission and distribution of electricity and the distribution of natural gas in portions of northwestern Wisconsin and in the western portion of the Upper Peninsula of Michigan. The Company provides electric utility service to approximately 255,000 customers and natural gas distribution service to approximately 111,000 customers.[6] Approximately 98 percent of NSPW's retail electric operating revenues were derived from operations in Wisconsin during 2014.[7] NSPW's regulated electric utility operations accounted for approximately 88 percent of net operating income, with the remaining 12 percent coming from the regulated gas distribution business.[8] NSPW directly owns approximately 830 MW of generation capacity.[9] This capacity is managed as part of an integrated system with its sister company, Northern States Power Company, a Minnesota corporation, and wholly-owned subsidiary of Xcel Energy Inc., pursuant to an Interchange Agreement between the two companies. Company witness Karl Hoesly discusses the Interchange Agreement in more detail in his Direct Testimony. NSPW's senior unsecured credit ratings are A- from Standard & Poor's ("S&P"), A2 from Moody's Investor Services ("Moody's"), and A- from Fitch Ratings ("Fitch").

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6 SEC Form 10-K, Xcel Energy Inc., filed February 27, 2015, at p. 13.

7 *Ibid.*

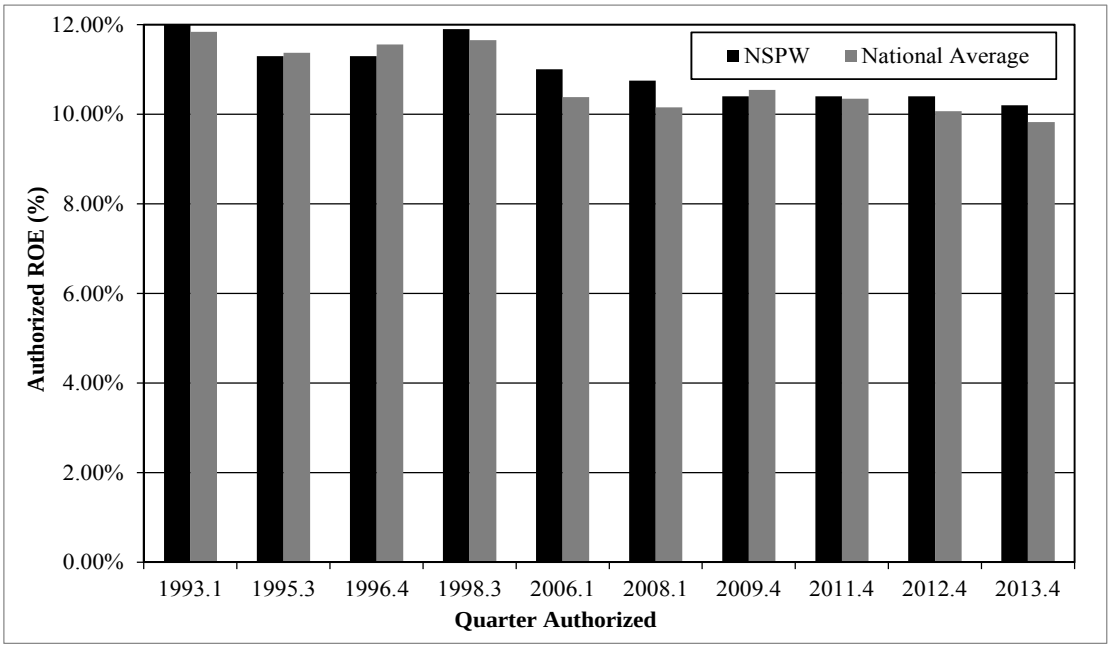
8 SEC Form 10-K, Northern State Power - Wisconsin, filed February 23, 2015, at p. 36, 70.

9 Nameplate capacity. *See* Direct-NSPW-Reck-3.

Q. Please characterize NSPW's history of authorized ROEs relative to that of other electric utilities in the U.S.

A. The Commission has been generally supportive of NSPW's capital needs and has generally authorized a slightly higher ROE for NSPW than the level authorized for other U.S. electric utilities during the same period. Figure 1 shows the history of NSPW's allowed ROEs relative to those of other electric utilities during the same fiscal quarter.

Figure 1: Authorized ROE, NSPW vs. National Average in the Same Quarter[10]



V. EFFECT OF ECONOMIC AND CAPITAL MARKET CONDITIONS

Q. Why is it important to consider the effect of prevailing economic conditions when setting the appropriate ROE?

A. The required cost of capital, including the ROE, is a function of prevailing and expected conditions in the general economy and in financial markets. This is

[10] Source: SNL Financial.

consistent with the *Hope* and *Bluefield* decisions, which provide that the authorized ROE for a public utility should allow the utility to attract investor capital at a reasonable cost under a variety of economic and financial market conditions. The standard ROE estimation tools such as the DCF, Risk Premium and CAPM models, each reflect the state of the general economy and financial markets by incorporating specific economic and financial data. However, it is important to recognize that these inputs are only samples of the various economic and market forces that may affect a utility's ROE going forward. Therefore, a more complete analysis of these forces and their relevant impacts is integral to any ROE recommendation.

Q. What are your primary observations with respect to the current state of the U.S. economy?

A. The U.S. economy has emerged from the protracted slowdown that followed the 2008 financial crisis and the ensuing severe economic recession. U.S. real GDP increased at an annual rate of 2.2 percent in the fourth quarter of 2014, after increasing at an annual rate of 5.0 percent in the third quarter of that year.[11] The GDP "advance" estimate for the first quarter of 2015 of 0.2 percent[12] suggests some slowing of the recovery, but unique circumstances surrounding winter weather and the slowdown in drilling activity may mask a healthier overall economy. The U.S. unemployment rate stands at 5.5 percent as of April 2015, down sharply from its peak of 10.0 percent set in October 2009.[13] Going forward, as the economy continues to expand, the Federal

[11] Blue Chip Economic Indicators, Volume 40, No. 4, April 10, 2015, at 5.

[12] U.S. Department of Commerce, Bureau of Economic Analysis, April 29, 2015.

[13] Source: Bureau of Labor Statistics.

Reserve is expected to start increasing short-term interest rates in order to sustain the desired balance between unemployment and consumer price inflation.

Q. What analysis have you conducted to assess current capital market conditions and their effect on your ROE analysis?

A. I considered the following issues in the current capital markets as being particularly relevant to my ROE analysis and recommendation: (A) expectations for higher interest rates; (B) current low dividend yields on utility stocks and current high valuations of utility shares relative to historical levels and relative to the broader market; and (C) widening credit spreads between utility bonds and Treasury bonds. I discuss these issues in sequence below.

A. Expectations for Higher Interest Rates

Q. Are low interest rates the "new normal"?

A. No. As much as the economy and borrowers (including utility customers) have benefited from a period of historic lows in interest rates, a combination of economic growth (and corresponding demand for capital) and gradual easing of accommodative monetary policy are expected to place upward pressure on interest rates as the economic cycle progresses over the next several years. As of March 31, 2015, the 30-day average yield on the 30-year U.S. Treasury bond was 2.63 percent. In contrast, the consensus among financial forecasters is for the average yield on the 30-year U.S. Treasury bond to be 4.90 percent in the period from 2016 through 2020[14], representing

[14] Blue Chip Financial Forecasts, Vol. 31, No. 12, December 1, 2012, at 14.

an increase of 227 basis points in U.S. Treasury bond yields over the next several years.

Q. What is the financial market's expectation regarding the Federal Reserve's plans to start raising short-term interest rates?

A. The April 2015 issue of Blue Chip Financial Forecasts surveyed market participants concerning their views regarding the timing of possible future rate increases by the Federal Reserve. Blue Chip reports that 100 percent of the 48 market participants surveyed expect that the Federal Reserve will raise the target for short-term interest rates at some point during 2015, with the most likely date being at either the June 2015 (24.4 percent) or the September 2015 (60 percent) FOMC meeting.[15]

Q. What effect do market expectations for higher interest rates have on your recommended cost of equity?

A. I have attempted to capture the effect of forward-looking market indicators in several of my ROE estimation models. For example, I have used the forecasted 30-year Treasury bond yield in my Risk Premium and CAPM analyses in order to take into consideration the market's expectation for higher interest rates. However, as discussed in more detail later in this Section, the current dividend yield component of the Constant Growth DCF analysis does not reflect market expectations for higher interest rate, and, as such, the DCF results are understated.

[15] Blue Chip Financial Forecasts, Volume 34, No. 4, April 1, 2015, at 14.

Q. What are your conclusions regarding the effect of higher interest rates on the cost of equity for regulated utilities such as NSPW?

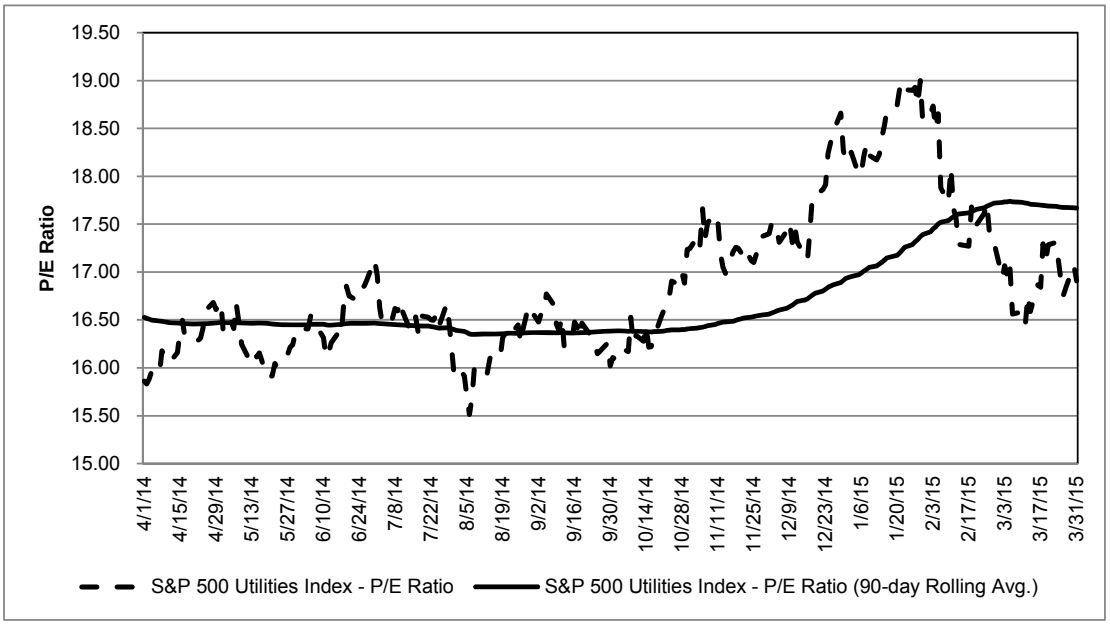
A. The market's reasonable expectation of higher interest rates indicates that the cost of equity for the proxy companies using traditional cost of equity estimation techniques that rely on historic or current market data is likely to lag investors' required return during the period that NSPW's rates will be in effect. Consequently, a consensus expectation of rising interest rates supports selection of an ROE for NSPW based on inputs and assumptions that reflect the market's expectation for higher interest rates.

B. Low Dividend Yields and High Valuations of Utility Shares

Q. How has the period of abnormally low interest rates affected the valuations and dividend yields of utilities?

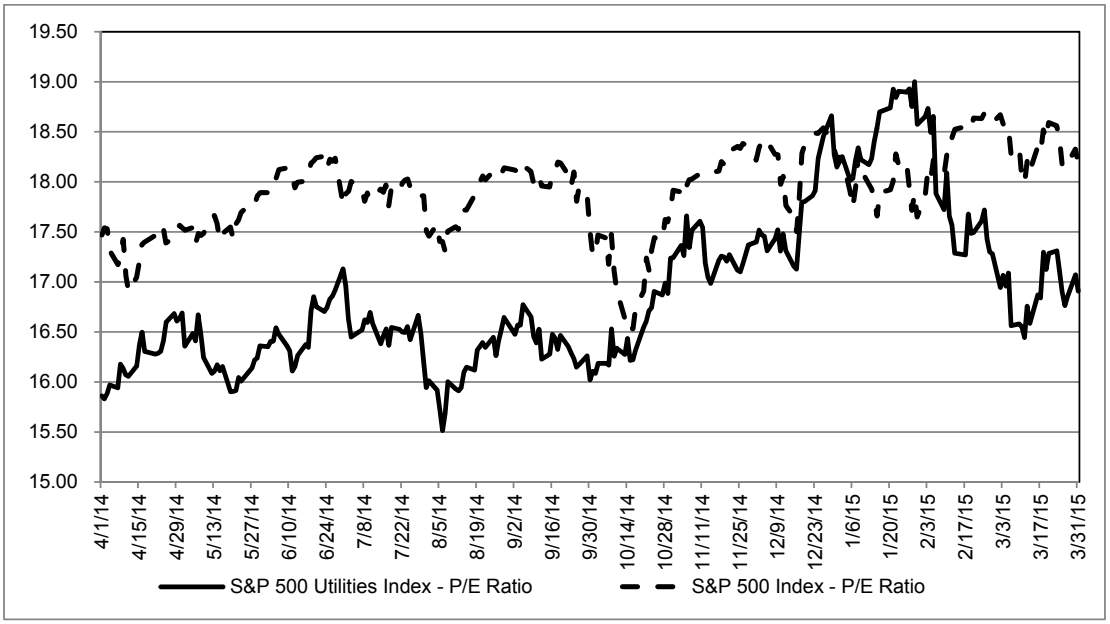
A. The Federal Reserve's Quantitative Easing program resulted in higher asset prices for many common stocks, including shares of public utility companies, as investors sought higher returns and more attractive yields than were being offered by bonds. Consequently, the share price of many utility stocks has increased to levels that are likely unsustainable, while the dividend yields of those same utility stocks has declined to unusually low levels. As shown in Figure 2, the average P/E ratio for the S&P Utility Index during the fourth quarter of 2014 and the first six weeks of 2015 was well above its long-term average, reflecting the surge in utility share prices that occurred in late 2014. Higher P/E ratios suggest that future returns for the utility sector will be muted, because current share prices already reflect investors' expectations for future earnings growth.

Figure 2: S&P Utilities Index P/E Ratio



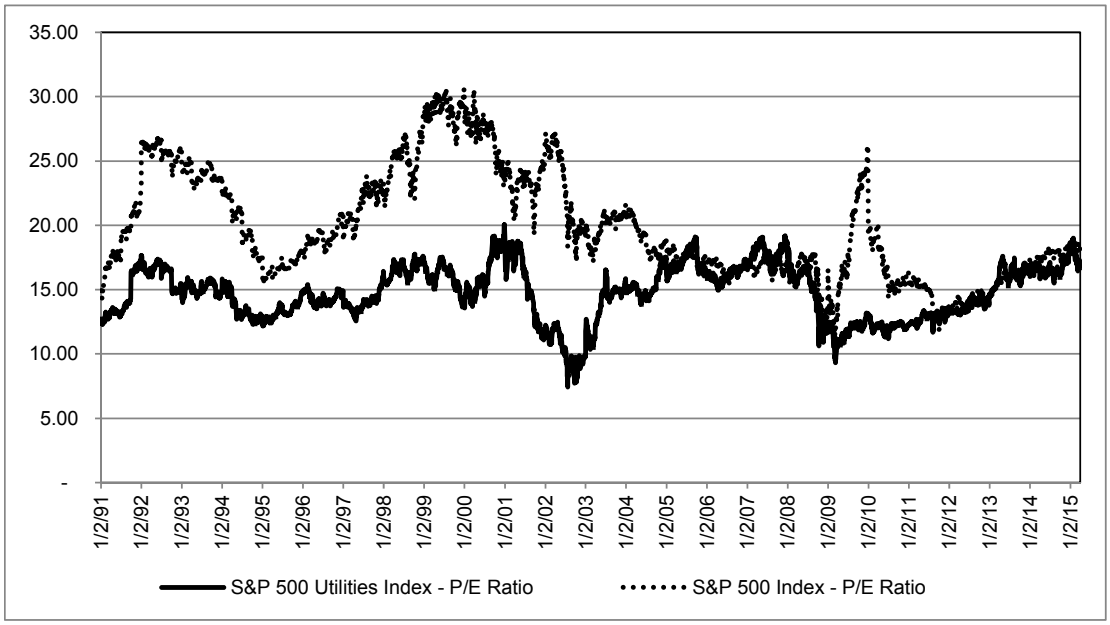
As shown in Figure 3, the average P/E ratio for the S&P Utility Index in early 2015 was actually higher than the P/E ratio for the broader market (as measured by the S&P 500 Index). It is reasonable to expect that valuations for utility stocks will decline as economic growth accelerates and investors rotate out of the utility sector into more economically-sensitive and growth-oriented sectors. In fact, since mid-February the P/E ratio for the S&P Utility Index has fallen below the P/E ratio for the broader market as investors start to factor in the likelihood of interest rate increases from the Federal Reserve later in 2015.

Figure 3: S&P Utilities Index P/E Ratio vs. S&P 500 Index P/E Ratio



Looking at the same relationship over a longer period, as shown in Figure 4, utility stocks have historically traded at a discount to the broader market except during the financial market dislocation of 2008-2009. This is further evidence that current utility share valuations are high relative to the broader market.

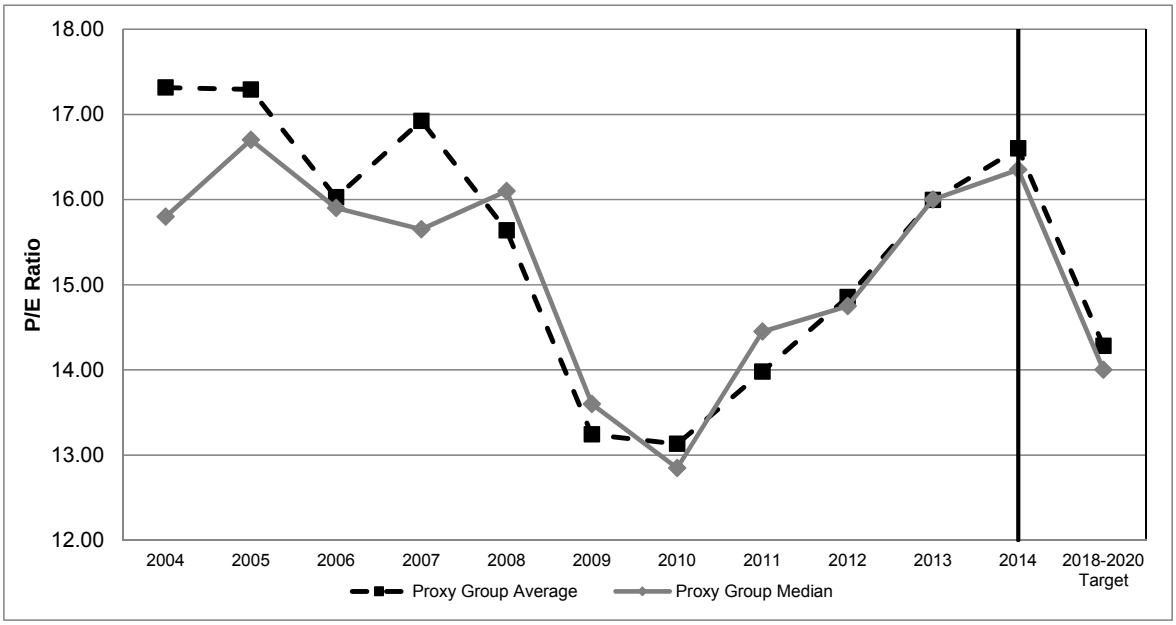
Figure 4: Comparison of P/E Ratios S&P Utilities Index and S&P 500 Index



Finally, in its 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.[16] Value Line 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 help explain why the results of the Constant Growth DCF analysis are currently so low. As shown in Figure 5, the average P/E ratio for the proxy companies was higher at the end of 2014 than the average projected P/E ratio for the group for the period 2018-2020.

[16] Value Line Investment Survey, Electric Utility (West) Industry, January 31, 2015.

Figure 5: Average Historical P/E Ratios for Proxy Companies



The expectation for lower P/E ratios for the proxy companies suggests that the current results from the DCF model should be considered with caution.

Q. Do current low interest rates and relatively high utility stock prices suggest a lower cost of equity for utilities such as NSPW?

A. No. The cost of equity is forward looking, and current market conditions do not reflect the aforementioned expectations for increasing interest rates and the movement toward more sustainable P/E levels (or its reciprocal dividend yield) for utility stocks. I am able to account for the first factor by using a forward interest rate projection in the CAPM and Risk Premium models. There is not a forward looking dividend yield from an objective or market source for the DCF model, however, so the DCF results fail to account for the market's expectation for higher interest rates and the corresponding effect on stock prices.

C. Increasing Credit Spreads

Q. Have you conducted any additional analysis of investor risk sentiment?

A. Yes, I have. Incremental credit spreads are a widely-recognized measure of investor risk sentiment. Wider credit spreads indicate that investors are requiring a higher premium (*i.e.*, a higher interest rate) to compensate them for the higher risk associated with longer-term or lower-rated debt instruments. My analysis compared the average credit spreads between various government and corporate bonds as of March 31, 2015 to the average spreads as of December 5, 2013, which was the date when the Commission issued its decision in NSPW's 2013 rate case. As shown in Table 1, the average credit spreads in March 2015 are generally similar to or higher than those in December 2013.

Table 1: Credit Spreads

BOND YIELDS	3/31/2015	12/5/2013 (NSPW 2013 RATE DECISION)	GREAT RECESSION (12/3/2007 - 6/30/2009)
Moody's Baa-Rated Utility Bond - Moody's A Rated Utility Bond	0.74%	0.51%	0.80%
Moody's Baa-rated Utility Bond – 30-year U.S. Treasury	1.84%	1.52%	3.03%
Moody's A-rated Utility Bond – 30-year U.S. Treasury	1.10%	1.01%	2.23%

In particular the spread between the Moody's Baa-rated utility bond index and the Moody's A-rated utility bond index has increased from 51 basis points to 74 basis points, which is approaching the 80 basis point spread that prevailed during the Great

Recession of 2007-2009. Similarly, the spread between the Moody's Baa-rated utility bond index and the 30-year Treasury yield has increased from 152 basis points to 184 basis points, and the spread between the Moody's A-rated utility bond and the 30-year U.S. Treasury bond has increased from 101 basis points to 110 basis points. These wider credit spreads are an indication of higher risk sentiment among utility bond investors, despite lower yields on U.S. Treasury bonds.

Q. What conclusions do you draw from your analysis of capital market conditions?

A. My primary conclusion is that it is important to consider the effect of capital market conditions on the inputs and assumptions used in the ROE estimation models and to consider whether current market conditions are sustainable over the period that the recommended ROE would be in effect. High valuations and low dividend yields in the utility sector are not expected to be sustainable over time, thereby violating one of the fundamental assumptions underlying the Constant Growth DCF model (*i.e.*, a constant P/E ratio) and calling into question the reliability of the results produced by the DCF model under current market conditions. Furthermore, since interest rates are projected to increase substantially above current levels, it is important to reflect that expectation in the Risk Premium model and the CAPM by using a risk-free rate that is consistent with forward-looking expectations for Treasury yields.

VI. PROXY GROUP SELECTION

Q. Why is it necessary to select a proxy group to estimate the fair return on equity for NSPW?

A. Since the ROE is a market-based concept and given the fact that NSPW is not publicly-traded, it is necessary to establish a group of companies that are both

publicly-traded and comparable to certain NSPW business and financial characteristics to serve as a "proxy" for purposes of the ROE estimation process.

Even if NSPW's regulated utility operations in Wisconsin made up the entirety of a publicly-traded entity, it is possible that transitory events could bias the Company's market value in one way or another over a given period of time. A significant benefit of using a proxy group is the ability to mitigate the effects of anomalous events that may be associated with any one company. As demonstrated later in this testimony, the proxy companies used in my ROE analyses possess a set of business and operating characteristics that make them similar to NSPW's regulated utility operations, and thus provide a reasonable basis for the derivation and assessment of ROE estimates.

Q. Please describe the specific screening criteria you have utilized.

A. I began with the 46 companies that Value Line classifies as "Electric Utilities" and then screened companies according to the following criteria:

1. Consistently pays quarterly cash dividends;
2. Maintains an investment grade long-term issuer rating (BBB- or higher from S&P or Baa3 or higher from Moody's) from both S&P and Moody's;
3. Is covered by more than one equity analyst;
4. Has positive earnings growth rates published by at least two of the following sources: Value Line Investment Survey ("Value Line"), Thomson First Call (as reported by Yahoo! Finance), and Zacks Investment Research ("Zacks");
5. Owns generation assets that are included in rate base;

6. Owned generation comprises greater than 25 percent of the Company's MWh sales to ultimate customers;
7. Regulated revenue and regulated net operating income make up more than 60 percent of the consolidated company's revenue and net operating income, respectively;
8. Regulated electric revenue and regulated electric net operating income make up more than 80 percent of the consolidated company's regulated operations; and
9. Is not involved in a merger or other transformative transaction for an approximate six-month period prior to my analysis.

Q. Did you include Xcel Energy in your proxy group?

A. No, I did not. It is my practice to exclude the subject company, or its parent holding company, from the proxy group due to the circular logic that would occur by including those results.

Q. What is the composition of your resulting proxy group?

A. Based on the screening criteria discussed above, I arrived at a proxy group consisting of the companies shown in Table 2.

Table 2: Proxy Group

Company	Ticker
ALLETE, Inc.	ALE
Alliant Energy Corporation	LNT
Ameren Corporation	AEE
American Electric Power Company, Inc.	AEP
Duke Energy Corporation	DUK
El Paso Electric Company	EE
Empire District Electric Company	EDE
Great Plains Energy Inc.	GXP
IDACORP, Inc.	IDA
OGE Energy Corporation	OGE
Pinnacle West Capital Corp.	PNW
PNM Resources, Inc.	PNM
Portland General Electric Company	POR
Southern Company	SO
TECO Energy, Inc.	TE
Westar Energy, Inc.	WR

Please refer to Schedule 1 for my proxy group screening data and results.

Q. Do your screening criteria result in a group of companies that investors would view as comparable?

A. Yes, I believe so. I have selected the above group to best align with the financial and operational characteristics of NSPW. The proxy group screening criterion requiring an investment grade credit rating ensures that the proxy group companies, like NSPW, are generally in sound financial condition. Because credit ratings take into account business and financial risks, the ratings provide a broad measure of investment risk that is widely referenced by investors. Ratings of "investment grade" generally

indicate sound financial condition. Additionally, I have screened on the percent of revenues and net operating income from regulated operations to differentiate utilities that are protected by regulation from those with substantial merchant or market-related risks. Also, I have screened on the percent contribution of the electric segment to overall financial results in order to differentiate utilities that, like NSPW, derive the predominant share of their operating income from their electric segments. Further, the generation screens identify utilities that, like NSPW, own regulated generation in rate base and bear the risk of generation in their asset mix. Those screens collectively reflect the risk factors that investors consider in making their investment decisions in utility companies.

VII. DETERMINATION OF THE APPROPRIATE COST OF EQUITY

Q. What models did you use in your ROE analyses?

A. I have considered the results of a variety of ROE estimation models, including the Constant Growth DCF, Multi-Stage DCF, Risk Premium, and CAPM models.

A. Constant Growth DCF Model

Q. Please describe the DCF approach.

A. The DCF approach, which is widely used in regulatory proceedings, is based on the theory that a stock's price represents the present value of all future expected cash flows. In its simplest form, the DCF model expresses the ROE as the sum of the expected dividend yield and long-term growth rate:

$$k = \frac{D(1+g)}{P} + g \quad [1]$$

where "k" equals the required return, "D" is the current dividend, "g" is the expected growth rate, and "P" represents the subject company's stock price.

Assuming a constant growth rate in dividends, the model may be rearranged to compute the ROE accordingly, as shown in Formula [2]:

$$r = \frac{D}{P} + g \quad [2]$$

Stated in this manner, the cost of common equity is equal to the dividend yield plus the dividend growth rate.

Q. What are the assumptions underlying the Constant Growth DCF model?

A. The Constant Growth DCF model is based on the following assumptions: (1) a constant average growth rate for earnings and dividends; (2) a stable dividend payout ratio; (3) a constant price-to-earnings multiple; and (4) a discount rate greater than the expected growth rate.

Q. Please summarize your application of the Constant Growth DCF model.

A. I calculated DCF results for each of the proxy group companies using the following inputs:

1. Average stock prices for the historical period, over 30, 90 and 180 trading days through March 31, 2015;
2. Annualized dividend per share as of March 31, 2015; and
3. Company-specific earnings growth forecasts for the term *g*.

My application of the Constant Growth DCF model is provided in Schedule 2.

Q. Why did you use averaging periods of 30, 90 and 180 days?

A. It is important to use an average of recent trading days to calculate the term *P* in the DCF model to ensure that the calculated ROE is not skewed by anomalous events that may affect stock prices on any given trading day. At the same time, it is important to reflect the conditions that have defined the financial markets over the recent past. In my view, consideration of those three averaging periods reasonably balances those concerns.

Q. Did you adjust the dividend yield to account for periodic growth in dividends?

A. Yes, I did. Utility companies tend to increase their quarterly dividends at different times throughout the year, so it is reasonable to assume that such increases will be evenly distributed over calendar quarters. Given that assumption, it is reasonable to apply one-half of the expected annual dividend growth for the purposes of calculating this component of the DCF model. That adjustment ensures that the projected dividend yield is representative of the coming 12-month period. Accordingly, the DCF estimates reflect one-half of the expected growth in the dividend yield.[17]

Q. What sources of growth have you used in your DCF analysis?

A. I have used the consensus analyst five-year growth estimates in earnings per share ("EPS") from Thomson First Call and Zacks, as well as EPS growth rates published by Value Line.

Q. Why did you focus on earnings per share growth?

A. The Constant Growth DCF model assumes that dividends grow at a single growth rate in perpetuity. Accordingly, in order to reduce the long-term growth rate to a single

[17] The expected dividend yield is calculated as $d_1 = d_0 (1 + ½ g)$.

measure, one must assume a constant payout ratio, and that EPS, dividends per share and book value per share will all grow at the same constant rate. Over the long term, however, dividend growth can only be sustained by earnings growth. As noted by Brigham and Houston in their text, *Fundamentals of Financial Management*: "Growth in dividends occurs primarily as a result of growth in *earnings per share* (EPS)."[18] It is therefore important to focus on measures of long-term earnings growth from credible sources as an appropriate measure of long-term growth in the DCF model.

Q. Are other sources of estimated dividend growth available to investors?

A. Yes, although that does not mean that investors incorporate such estimates into their investment evaluations. Academic studies suggest that investors base their investment decisions on analysts' expectations of growth in earnings.[19] I am not aware of any similar findings regarding non-earnings based growth estimates. In addition, the only forward-looking growth rates that are available on a consensus basis are analysts' EPS growth rates. The fact that earnings growth projections are the only widely-reported estimates of growth provides further support that earnings growth is the most meaningful measure of growth among the investment community.

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[18] Eugene F. Brigham and Joel F. Houston, *Fundamentals of Financial Management* (Concise Fourth Edition, Thomson South-Western), at 317 (emphasis added).

[19] *See*, *e.g.*, Harris and Marston, *Estimating Shareholder Risk Premia Using Analysts Growth Forecasts*, Financial Management, 21 (Summer 1992), and Vander Weide and Carleton, *Investor Growth Expectations: Analysts vs. History*, The Journal of Portfolio Management, Spring 1988, at 81. Please note that while the original study was published in 1988, it was updated in 2004 under the direction of Dr. Vander Weide. The results of that updated study are consistent with Vander Weide and Carleton's original conclusions.

Q. How did you calculate the Mean High, Mean Low and Overall Mean DCF results?

A. I calculated the Mean High DCF result using the maximum growth rate (*i.e.*, the maximum of the Value Line, Zacks and First Call EPS growth rates) in combination with the expected dividend yield for each of the proxy group companies. I used a similar approach to calculate the Mean Low DCF results, using the minimum growth rate for each company. The Overall Mean results reflect the average growth rate for each company in combination with the expected dividend yield.

Q. What are the results of your Constant Growth DCF analysis?

A. The results of my Constant Growth DCF analysis are provided in Schedule 2 and summarized in Table 3.

Table 3 – Constant Growth DCF Results

	Using 30-Day Trading Period to Calculate Dividend Yield	Using 90-Day Trading Period to Calculate Dividend Yield	Using 180-Day Trading Period to Calculate Dividend Yield
Overall Mean Result	8.83%	8.67%	8.82%

Q. How do you explain the relatively low results from the Constant Growth DCF model?

A. From January 1, 2014 through March 31, 2015, the 30-day average yield on the 30-year U.S. Treasury bond has decreased from 3.87 percent to 2.63 percent. During this same period, the average stock price of the proxy group companies has surged by 16.17 percent, as income-oriented investors have sought alternatives to the extraordinarily low yields on government bonds. The recent surge in stock prices for the proxy group companies has reduced the average dividend yield for the proxy group

from 3.96 percent to 3.67 percent, which has reduced the Constant Growth DCF results since the dividend yield is an important component of that model.[20]

Q. What is your conclusion regarding the results of the Constant Growth DCF model?

A. My conclusion is that the recent surge in utility stock prices has had a significant effect on dividend yields for the proxy group, tending to lower the Constant Growth DCF estimates. Just as the financial crisis did not represent an equilibrium, the recent run-up in utility stock prices also may not be sustainable. As discussed in more detail in Section V of my Direct Testimony, the price/earnings ("P/E") ratio for the proxy group companies is currently higher than the Value Line projected P/E ratios for the 2018-2020 time period. At the same time, interest rates are forecasted to increase rather substantially[21], placing pressure on stock prices of dividend-paying companies such as utilities. For that reason, I believe that the Constant Growth DCF results are currently understated in light of high utility stock valuations, low dividends yields, and expectations for higher interest rates. Because it is reasonable to conclude that current stock valuations and dividend yields are not sustainable, the Constant Growth DCF model does not produce reliable results because one of the fundamental assumptions of the Constant Growth DCF method is that the P/E ratio remains constant.

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[20] The dividend yield is calculated by dividing the current annualized dividend by the current average stock price, or D/P. This means that, aside from any changes in the dividend itself, the stock price and the dividend yield are inversely related. That is, as stock prices increase, dividend yields decrease.

[21] As discussed in Section VII of my Direct Testimony, economists surveyed by Blue Chip Financial Forecasts are projecting that the yield on 30-year U.S. Treasury bonds will increase to 4.90% for the period from 2016-2020.

B. Multi-Stage DCF Model

Q. Have you considered any other forms of the DCF model?

A. Yes, I also considered the results of a multi-period (three-stage) DCF Model (the "Multi-Stage DCF" model).

Q. Please describe your Multi-Stage DCF analysis.

A. My Multi-Stage DCF analysis approaches the ROE from the perspective of an investment in the stock of each of the Proxy Group companies. The model calculates the internal rate of return of the cash flow stream generated by a cash outflow equal to the average current stock price of the Proxy Group companies followed by annual cash inflows of the average dividend of the Proxy Group companies, as those dividends grow according to the appropriate assumed growth rate for each stage.

Q. Please explain the dividend growth rates in your Multi-Stage DCF analysis.

A. I applied the Multi-Stage DCF model to the same proxy group described earlier in my Direct Testimony. The near-term growth rate refers to the Value Line, Thomson First Call and Zacks forecasts for Years 1-5, using the mean of these rates as the Overall Mean scenario and the high and low of these rates as Mean High and Mean Low scenarios, respectively. I then transition to a long-term forecast of gross domestic product ("GDP") growth for Years 11 forward. Years 6-10 are linear interpolations of the near-term and long-term growth rates. The Multi-Stage DCF model is useful for testing the assumption that dividends will grow at a constant growth rate over time.

Q. How did you calculate the long-term GDP growth rate?

A. The long-term GDP growth rate is based on a real (constant dollar) GDP growth rate, combined with estimates for inflation. I have used two sources of real GDP growth

rate: (1) the consensus Blue Chip Financial Forecast of 2.30 percent; and (2) the historical GDP growth rate for the period from 1929-2014 of 3.26 percent, based on data from the Bureau of Economic Analysis. I have applied the inflation estimate to the estimate of real GDP growth to develop the nominal (*i.e.*, post-inflation) GDP growth rate. I have used two alternative estimates for inflation: (1) the Blue Chip Financial forecast for 2021-2025; and (2) the 30-day average spread between the 30-year Treasury bond and the 30-year Treasury Inflation-Protected Securities ("TIPS") bond, which is an inflation-indexed bond that presents the broader market's view of forward-looking inflation. The results, as shown in Schedule 3, are nominal GDP growth estimates of 4.44 percent (using projected real GDP growth) and 5.42 percent (using historical real GDP growth).

Q. What are the results of your Multi-Stage DCF analysis?

A. The results of my Multi-Stage DCF analysis are provided in Schedules 4.1 – 4.6, and the Overall Mean results are summarized in Table 4.

Table 4 – Multi-Stage DCF Results

	Using 30-Day Trading Period to Calculate Dividend Yield	Using 90-Day Trading Period to Calculate Dividend Yield	Using 180-Day Trading Period to Calculate Dividend Yield
Overall Mean Results – Projected GDP Growth	8.59%	8.41%	8.59%
Overall Mean Results – Historical GDP Growth	9.37%	9.20%	9.36%

Q. What is your conclusion regarding the results of the Multi-Stage DCF model?

A. While the Multi-Stage DCF model allows for the selection of different growth rates in the three stages of the model, like the Constant Growth DCF model, the Multi-Stage

DCF model relies on the historic dividend yield as a starting point and fails to adequately account for the projected increase in interest rates. For that reason, I believe it is important to also consider the results of other ROE estimation techniques, such as the Risk Premium approach and the CAPM approach.

C. Risk Premium Analysis

Q. Please describe the Risk Premium approach that you used.

A. In general terms, this approach recognizes that equity is riskier than debt because equity investors bear the residual risk associated with ownership. Equity investors, therefore, require a greater return (*i.e.*, a premium) than a bondholder would. The Risk Premium approach estimates the cost of equity as the sum of the Equity Risk Premium and the yield on a particular class of bonds.

$$ROE = RP + Y \qquad [3]$$

Where:

RP = Risk Premium (difference between allowed ROE and the respective bond yield); and

Y = Applicable bond yield.

Since the equity risk premium is not directly observable, it typically is estimated using a variety of approaches, some of which incorporate ex-ante, or forward-looking estimates of the cost of equity, and others that consider historical, or ex-post, estimates. This Commission has previously recognized an approach that uses actual authorized returns for utilities as the measure of the Equity Risk Premium. I have relied on authorized returns from a large sample of U.S. electric utilities, and separately on authorized returns for Wisconsin utilities only.

Q. What did your Risk Premium analysis reveal?

A. To estimate the relationship, I conducted a regression analysis using the following equation:

$$RP = a + (b \times Y) \qquad [4]$$

Where:

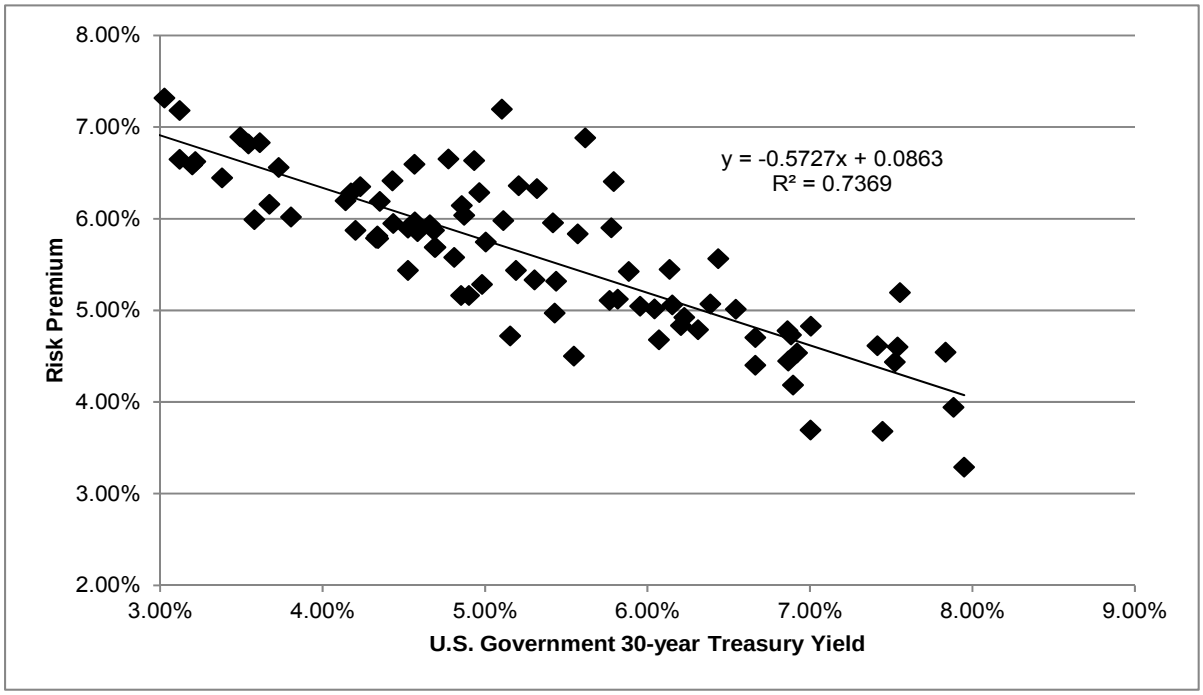
a = Intercept term

b = Slope term

Data regarding allowed ROEs were provided by Regulatory Research Associates. The data includes 593 national electric utility rate cases and 56 Wisconsin electric utility rates cases from 1992 through March 31, 2015.

My first risk premium analysis finds the relationship between quarterly average allowed ROEs for all national electric utilities and the respective 30-year Treasury yield from the relevant quarter. The results of that regression are detailed in Figure 6.

Figure 6: National Risk Premium Regression Results vs. 30-Year Treasury Yield



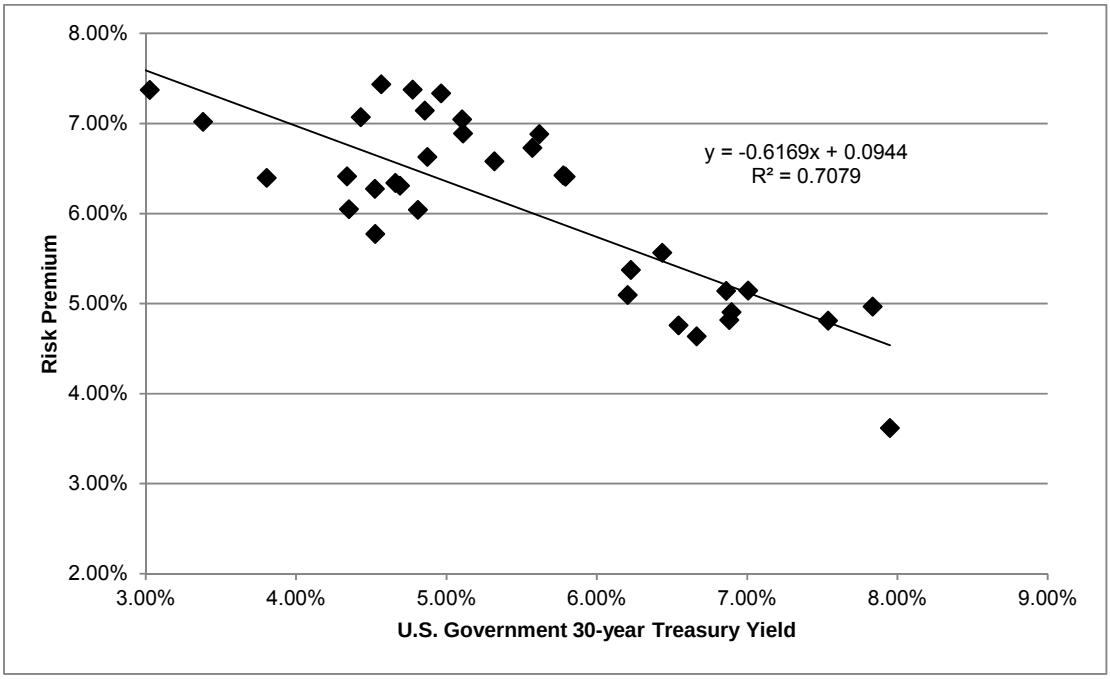
As illustrated by the chart, the risk premium varies with the level of bond yield, and generally increases as bond yields decrease, and vice versa. Given this relationship, I then consider three estimates of the 30-year Treasury yield, including the current 30-day average, a "Near-Term" Blue Chip consensus forecast for Q1 2015-Q2 2016, and a "Long-Term" Blue Chip consensus forecast for 2016-2020. I find this "Long-Term" result to be most applicable since it is consistent with the 2016 test year that applies in NSPW's application, and also because investors typically have a multi-year view of their required returns on equity. As shown on Schedule 5.1, Page 2, from 1992 through March 31, 2015, the average implied risk premium for these Treasury yield estimates is 6.59 percent. Based on the regression coefficients provided in Schedule 5.1, Page 2, which allow for the estimation of the risk premium at varying bond yields, the results of my analysis are shown in Table 5.

Table 5 – National Risk Premium Results Using 30-Year Treasury Yield

	Using 30-Day Average Yield on 30-Year Treasury Bond	Using Near-Term Forecast for Yield on 30-Year Treasury Bond[22]	Using Long-Term Forecast for Yield 30-Year Treasury Bond[23]
Yield	2.63%	3.15%	4.90%
Risk Premium	7.12%	6.82%	5.82%
Resulting ROE	9.75%	9.97%	10.72%

I have also performed a similar analysis using the quarterly average of Wisconsin authorized electric returns from Q1 of 1992 through Q1 of 2015 to calculate the risk premium. The results of that analysis are shown in Figure 7:

Figure 7: Wisconsin Risk Premium Regression Results vs. 30-Year Treasury Yield



[22] Blue Chip consensus forecast for 1Q 2015 – 2Q 2016, as of March 1, 2015.

[23] Blue Chip consensus forecast for 2016 – 2020, as of December 1, 2014.

As shown on Schedule 5.2, Page 4, from 1992 through March 31, 2015, the average implied risk premium for the three Treasury yield estimates was 7.25 percent. Based on the regression coefficients provided in Schedule 5.2, Page 4, the results of my analysis are shown in Table 6.

Table 6 – Wisconsin Risk Premium Results Using 30-Year Treasury Yield

	Using 30-Day Average Yield on 30-Year Treasury Bond	Using Near-Term Forecast for Yield on 30-Year Treasury Bond[24]	Using Long-Term Forecast for Yield on 30-Year Treasury Bond[25]
Yield	2.63%	3.15%	4.90%
Risk Premium	7.82%	7.50%	6.42%
Resulting ROE	10.45%	10.65%	11.32%

Q. Why is it important to compare authorized ROEs on a national basis?

A. Authorized ROEs in other jurisdictions are a significant part of the market information that investors consider when evaluating their investment alternatives. The level of authorized ROE also provides a signal to investors about the level of regulatory support that the Company can expect to receive with regard to maintaining its ability to compete for capital and its financial integrity. An authorized ROE that is significantly below the national average for a given period may be an impediment to the Company's ability to attract capital and invest in infrastructure necessary to provide safe, reliable service to its customers. NSPW expects to invest approximately $1.4 billion in infrastructure in the 2015-2019 period. Relative risk factors, such as

[24] Blue Chip consensus forecast for 1Q 2015 – 2Q 2016, as of March 1, 2015.

[25] Blue Chip consensus forecast for 2016 – 2020, as of December 1, 2014.

electric generation in the asset mix, or periods of elevated capital spending, such as NSPW's current capital spending program, may justify higher than average allowed ROEs.

Q. Have you considered additional Risk Premium analyses?

A. Yes, as an alternative to the Treasury Yield Risk Premium analyses described above, I have performed two similar series of analyses using historical A-rated utility bond yields to calculate the risk premium against both nationally-authorized electric ROEs and Wisconsin jurisdictional electric ROEs. A Blue Chip forecast, which I included in the Treasury yield version of the model, is not available for the A-rated utility bond yield. I therefore derived a forecast for the A-rated utility bond yield using historical spreads. The average spread between the 30-year Treasury bond yield and the A-rated utility bond yield since the financial crisis – assumed for this purpose to be the fourth quarter of 2008 – has been 1.33 percent. I add this spread to the Blue Chip Consensus forecasts referenced above to arrive at a Near-Term forecast of 4.48 percent, and a Long-Term forecast of 6.23 percent. Inserting these forecasts for the A-rated utility bond yield into the National and Wisconsin regression equations provides the results shown in Table 7. My calculations are shown on Schedules 5.3 – 5.4. The results of this analysis reasonably track the Risk Premium results using the 30-Year Treasury Yield.

Table 7 – National and Wisconsin Risk Premium Results
vs. A-rated Utility Bond Yield

	Using 30-Day Average Yield on A-Rated Utility Bond	Using Near Term Forecast for A-Rated Utility Bond[26]	Using Long-Term Forecast for A-Rated Utility Bond[27]
Yield	3.74%	4.48%	6.23%
National Risk Premium	5.86%	5.44%	4.45%
National ROEs	9.60%	9.92%	10.68%
Wisconsin Risk Premium	6.43%	6.02%	5.06%
Wisconsin ROEs	10.17%	10.50%	11.29%

As noted earlier, I find that the Risk Premium results based on the 5-year forecast for the 30-year Treasury bond are most applicable since they are forward-looking, and investors typically have a multi-year forward view of their own estimates of the cost of equity. Therefore, for purposes of my final range of analytical results, I draw from my Bond Yield Plus Risk Premium model the results of 10.72 percent (referring to the average result from the National ROE analyses on Table 5 as applied to the 5-year forecast) and 11.32 percent (referring to the average result from the Wisconsin ROE analyses on Table 6 as applied to the 5-year forecast).

[26] Blue Chip consensus forecast for 30-year Treasury Yield for 1Q 2015 – 2Q 2016, as of March 1, 2015 (3.15%), plus average spread between 30-Year Treasury Yield and A-rated utility bond yield since 2008 Q4 (1.33%).

[27] Blue Chip consensus forecast for 30-year Treasury Yield for 2016-2020, as of December 1, 2014 (4.90%), plus average spread between 30-Year Treasury Yield and A-rated utility bond yield since 2008 Q4 (1.33%).

D. CAPM Analysis

Q. Please briefly describe the general form of 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] As shown in Equation [5], the CAPM is defined by four components, each of which must theoretically be a forward-looking estimate:

$$K_e = r_f + \beta(r_m - r_f) \quad [5]$$

where:

K_e = the required ROE for a given security;

r_f = the risk-free rate of return;

β = Beta of an individual security; and

r_m = the required return for the market as a whole.

The term $(r_m - r_f)$ represents the Market Risk Premium ("MRP"). According to the theory underlying the CAPM, since unsystematic risk can be diversified away, investors should be concerned only with systematic or non-diversifiable risk. Non-diversifiable risk is measured by Beta, which is defined as:

[28] Systematic risks are fundamental market risks that reflect aggregate economic measures and therefore cannot be mitigated through diversification. Unsystematic risks reflect company-specific risks that can be mitigated and ultimately eliminated through investments in a portfolio of companies and/or market sectors.

$$\beta = \frac{Covariance(r_e, r_m)}{Variance(r_m)} \quad [6]$$

where:

r_e = the rate of return for the individual security or portfolio.

The variance of the market return, noted in Equation [6], is a measure of the uncertainty of the general market, and the covariance between the return on a specific security and the market reflects the extent to which the return on that security will respond to a given change in the market return. Thus, Beta represents the risk of the security relative to the market.

Q. What assumptions did you use in your CAPM analysis?

A. Since both the DCF and CAPM models assume long-term investment horizons, I used the Blue Chip forecast of the yield on 30-year Treasury bonds for 2016-2020 of 4.90 percent as my estimate of the risk-free rate.[29]

Q. What measures of the Beta coefficient did you use in your CAPM analysis?

A. I considered two separate Beta coefficients for the proxy group companies: (1) the reported Beta coefficients from Bloomberg (which are calculated using 24 months of weekly data); and (2) the reported Beta coefficients from Value Line (which are calculated using 60 months of weekly data). My calculations for Beta are provided on Schedule 6.1.

Q. What Market Risk Premium ("MRP") did you use in your CAPM analysis?

A. I conducted a Constant Growth DCF analysis on each of the S&P 500 companies and calculated an average market return, weighted by market capitalization. This market

[29] Blue Chip Financial Forecasts, December 1, 2014, at 14.

return is that implied by current stock prices and projected earnings growth for each of these companies. I then used the MRP that results from deducting the risk-free rate (based on the 5-year forecast of the 30-year Treasury bond) from that market return. This analysis results in an 8.05 percent MRP, as shown on Schedule 6.2, Page 1.

Q. Why did you not use a historical MRP?

A. The CAPM is inherently a forward-looking model since it is designed to estimate investors' required equity return expectations. The MRP should, therefore, reflect investors' expected equity market returns relative to expected returns on Treasury securities. While these return expectations may be informed by history, they should primarily reflect forward-looking return expectations.

Q. What are the results of your CAPM analyses?

A. As provided in Schedule 6.3, Page 9, the CAPM results are 10.62 percent (using Bloomberg Betas) and 10.99 percent (using Value Line Betas), or an average of 10.81 percent. These forward-looking CAPM results are consistent with the Risk Premium results but significantly higher than the Constant Growth and Multi-Stage DCF results.

Q. Have economic and financial market conditions affected the CAPM?

A. Yes. Even though the Federal Reserve recently discontinued its practice of "Quantitative Easing", Treasury yields are near their lowest level in nearly 35 years. Following the 2008 financial crisis, investors reacted to the extraordinary levels of market volatility by investing in low-risk securities such as Treasury bonds (*i.e.*, a "flight to quality"). Given the extraordinarily low level of interest rates as compared to historical levels, using current or even near-term projections of government bond yields would distort market expectations for a reasonable risk-free rate. Using the 5-

year forecast of bond yields helps alleviate these short-term market factors affecting the risk free rate, or "r_f", in the CAPM formula. Interest rates should be expected to increase as the economy continues to expand.

E. Impact of Flotation Costs

Q. What are flotation costs and how do they affect the cost of capital?

A. Flotation costs are the costs associated with the sale of new issues of common stock. Those costs include out-of-pocket expenditures for preparation, filing, underwriting, and other costs of issuance of common stock. To the extent that a company is denied the opportunity to recover prudently incurred flotation costs, actual returns will fall short of expected (or required) returns, thereby diminishing the utility's allowed return. To appropriately reflect flotation costs, the DCF calculation should be modified to provide a dividend yield that would reimburse investors for issuance costs. Based on the issuance costs provided on Schedule 7, I conclude that an adjustment of 0.18 percent (*i.e.*, 18 basis points) would be an appropriate reflection of flotation costs for the Company.

Q. Do your final results include an adjustment for flotation cost recovery?

A. No. Consistent with the longstanding precedent of the Commission, I did not make an explicit flotation cost adjustment to any of my quantitative analyses. Rather, I provide the result above for consideration in my recommended ROE, which reflects the range of results from my Constant Growth DCF, Multi-Stage DCF, Risk Premium and CAPM analyses.

VIII. BUSINESS RISKS

Q. Are there factors specific to NSPW's operating environment that you considered in your ROE recommendation?

A. Yes, there are several additional factors that have a direct bearing on the Company's ability to earn a fair return and on the Company's riskiness relative to the proxy group, including NSPW's relatively high level of capital expenditures, and the Company's relatively small size. These factors increase NSPW's risk relative to the proxy group and support an ROE above the mean for the proxy group companies.

A. Capital Expenditure Risk

Q. Please summarize the Company's capital expenditure plan.

A. As Mr. Reck indicates in his testimony, the Company estimates that between 2015 and 2019 it will invest approximately $1.4 billion in capital, or about $280 million per year over that period. Those expenditures represent approximately 109 percent of the Company's total net utility plant in service as of December 31, 2013.[30]

Q. Does the investment community recognize the risks associated with elevated levels of capital expenditures?

A. Yes. From a credit perspective, the additional pressure on cash flows associated with high levels of capital expenditures exerts corresponding pressure on credit metrics and, therefore, credit ratings. S&P recently noted:

> [T]here is little doubt that the U.S. electric industry needs to make record capital expenditures to comply with the proposed carbon pollution rules over the next several years, while maintaining safety standards and grid stability. We believe the higher capital spending and subsequent rise in debt levels could strain these companies' financial measures, resulting in an almost consistent negative

[30] NSPW's net utility plant at December 31, 2013 was $1,320.9 billion, per Company 2013 FERC Form 1.

> discretionary cash flow throughout this higher construction period. To meet the higher capital spending requirements, companies will require ongoing and steady access to the capital markets, necessitating that the industry maintains its high credit quality. We expect that utilities will continue to effectively manage their regulatory risk by using various creative means to recover their costs and to finance their necessary higher spending.[31]

Q. Have any credit rating agencies commented on NSPW's capital spending program?

A. Yes. In a recent credit opinion on NSPW, Moody's commented: "Given the magnitude of NSP's planned capital expenditures, continued reasonable regulatory treatment will be needed to ensure adequate returns and relatively stable metrics."[32]

Q. How does the level of the Company's expected capital expenditures compare to the proxy group?

A. As shown on Schedule 8.1, I calculated the ratio of expected capital expenditures to net utility plant for NSPW and each of the companies in the proxy group. In particular, I divided each company's projected capital expenditures for the period from 2015-2019 by its total net utility plant as of December 31, 2013. As shown on Schedule 8.2 (see also Figure 8), NSPW's ratio of capital expenditures as a percentage of net utility plant of 109 percent is more than twice as high as the median for the proxy group companies of 51 percent.

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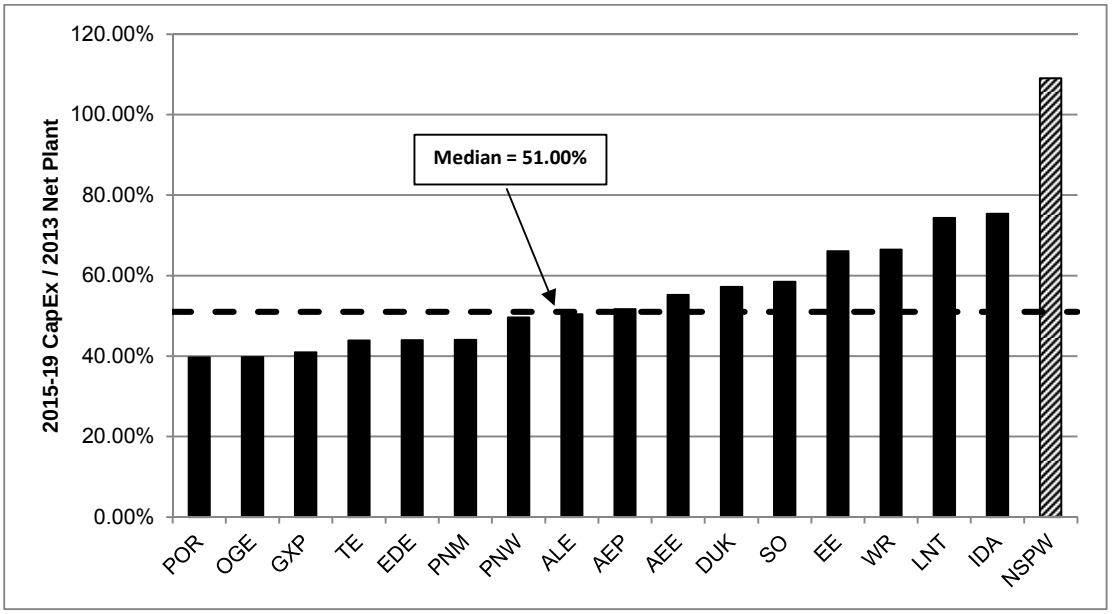
[31] Standard and Poor's, Ratings Direct, "U.S. Regulated Electric Utilities' Annual Capital Spending Is Poised to Eclipse $100 Billion," July 2014.

[32] Moody's Investors Service, Credit Opinion: Northern State Power Company (Wisconsin), March 17, 2015, at 3.

Figure 8: Comparison of Capital Expenditures – Proxy Group Companies



Q. What are your conclusions regarding the effect of the Company's capital investment plan on its cost of equity?

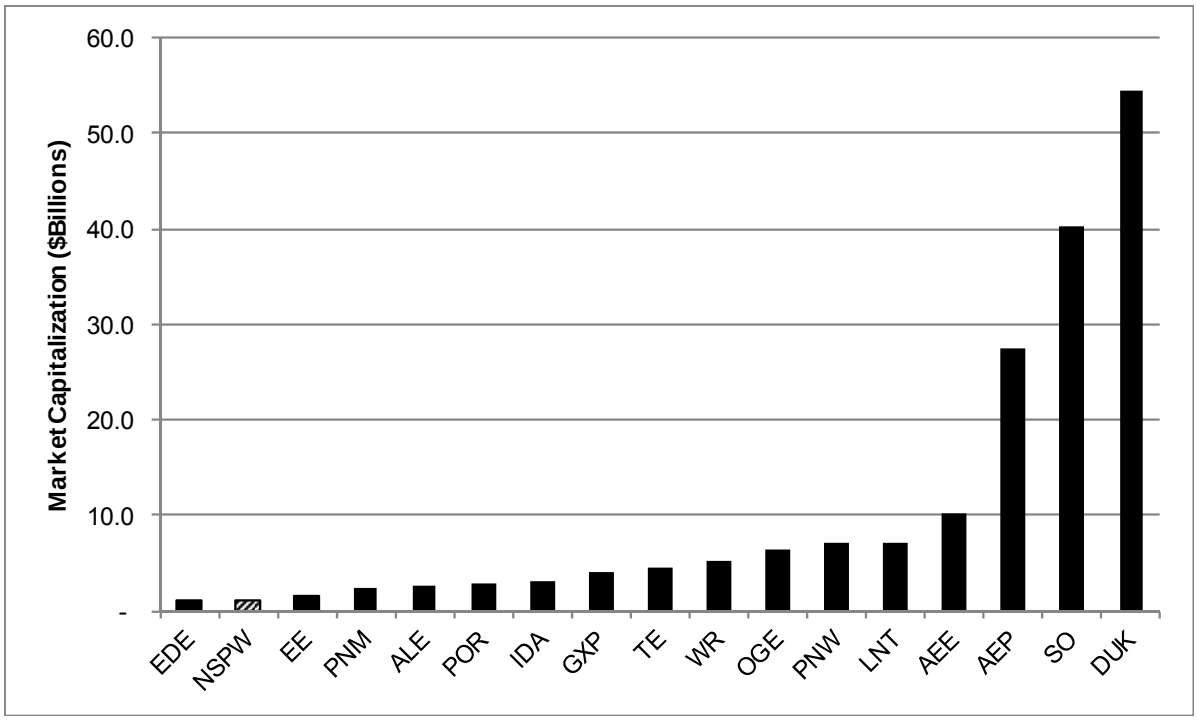
A. Because NSPW is projecting a substantial capital expenditure program over the next five years, I conclude that it is reasonable that the Company will require continued access to capital markets to finance these investments. The investment community recognizes the additional risks associated with substantial capital expenditures. Therefore, the relative size of the Company's capital expenditure plan suggests that NSPW has an above average risk profile as compared to the proxy group, and also emphasizes the importance of capital market access on favorable terms for the benefit of both customers and shareholders.

B. Small Size Risk

Q. To what extent does NSPW's relatively small size affect its risk profile?

A. Substantial academic literature recognizes that smaller companies tend to be rewarded with higher total returns than larger companies, even after the relative illiquidity of smaller company stock is taken into account.[33] Figure 9 (*see* also Schedule 9) shows NSPW's market capitalization relative to the proxy group.

Figure 9: Comparison of Market Capitalization – Proxy Group Companies



NSPW's relatively small size among the proxy group companies means that the Company's earnings may be disproportionately affected by events such as weaker than expected demand for electricity or natural gas, plant outages, adverse regulatory rulings, or new legislation. While I recognize that NSPW's membership in Xcel Energy's family of companies may provide NSPW with some degree of buffer from

[33] See, *e.g.* "Firm Size and Return," Ibbotson SBBI 2014 Classic Yearbook, at 99-100.

such external shocks, on a stand-alone basis NSPW is relatively small as compared to the proxy group companies used for the ROE analysis.

Q. Do you propose to make a specific risk adjustment to your results based on NSPW's capital expenditures program or the company's small size?

A. No. Any incremental risk associated with NSPW's small size is likely to be offset by the generally supportive regulatory environment in Wisconsin; however, there may be some incremental risk associated with NSPW's recovery of its substantial forecast capital expenditure program. While I do not make an explicit quantitative adjustment to my ROE results, I do consider this additional risk when recommending my ROE among the range of these results.

IX. CAPITAL STRUCTURE

Q. What common equity ratio is the company proposing?

A. NSPW is proposing a 52.50 percent common equity ratio, as discussed in the testimony of Company witness Ms. Mary Schell.

Q. Do you consider a specific risk adjustment to the allowed ROE as a result of NSPW's proposed capital structure?

A. No, I do not. As shown on Schedule 10, NSPW's proposed capital structure is consistent with that of the proxy group companies, which for the four quarters ending with the third quarter of 2014 have equity ratios ranging from 47.35 percent to 64.81 percent, with a mean common equity ratio of 54.08 percent. I therefore see no need to make an adjustment to my recommended ROE as a result of this proposed capital structure.

X. SUMMARY AND CONCLUSIONS

Q. What is the range of results produced by the various cost of equity analyses?

A. Table 8 summarizes the results of my DCF, Risk Premium and CAPM analyses.

Table 8 – Summary of ROE Model Results

DCF	
Constant Growth	8.77%
Multi-Stage – Forecasted GDP Growth	8.53%
Multi-Stage – Historical GDP Growth	9.31%
Risk Premium – 30 Yr. U.S. Treasury	
National rate case decisions	10.72%
Wisconsin rate case decisions	11.32%
Risk Premium – Moody's A-rated Utility Index	
National rate case decisions	10.68%
Wisconsin rate case decisions	11.29%
CAPM	
Value Line Beta	10.99%
Bloomberg Beta	10.62%

Q. Please summarize your ROE recommendation based on this range of results.

A. My results range from a low of 8.53 percent for the Multi-Stage DCF analysis (Overall Mean result) to a high of 11.32 percent for the Risk Premium analysis (references Wisconsin rate cases and the 2016-20 forecast Treasury yield). I recommend an ROE of 10.20 percent for the Company, which is slightly above the midpoint of the range. My recommendation is based on the following conclusions:

1. ROE models in general may underestimate the ROE given current capital market conditions as demonstrated by expectations for higher interest rates, as well as credit spreads that are higher now than at the time of the Commission's decision in NSPW's previous rate case;
2. The DCF analyses may underestimate the ROE given the low dividend yields and high stock valuations for utility companies, which are not likely to be sustainable over the longer-term;
3. Risk Premium and CAPM models that rely on forward-looking inputs for the risk-free rate should be taken into consideration during a period when interest rates are projected to increase substantially from current levels;
4. NSPW's substantial ongoing capital expenditures program relative to the proxy group may subject the Company to a higher risk of recovering these amounts; and
5. The Company's relatively small size may imply a higher ROE than would otherwise be suggested by the analytical model results.

On balance, I believe 10.20 percent represents a fair determination of the Company's cost of equity.

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

A. Yes, it does.